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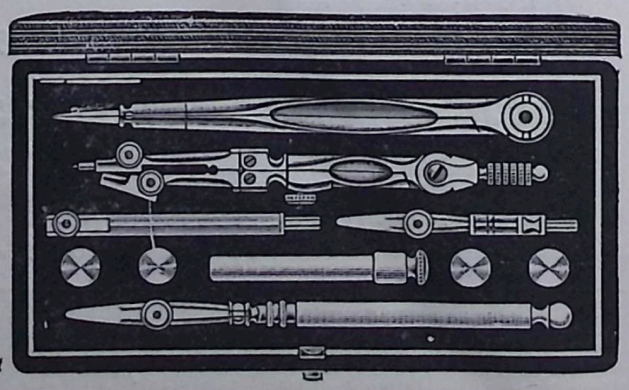

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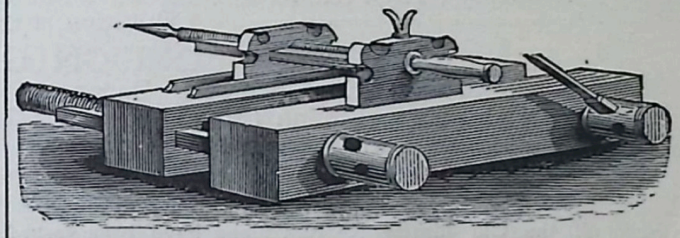

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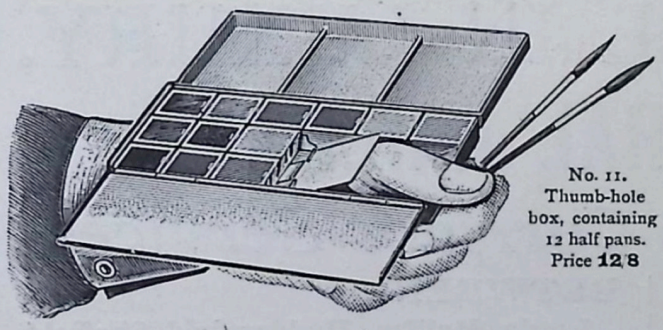

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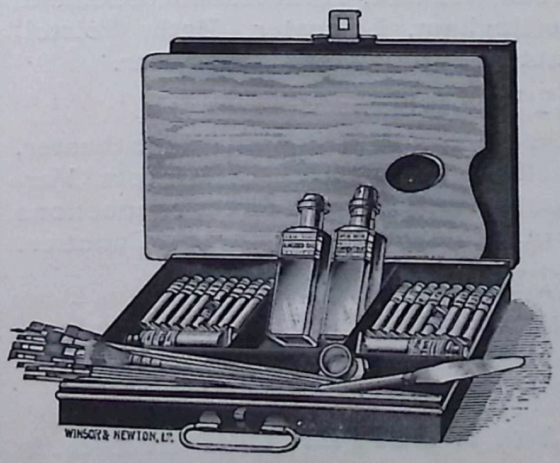

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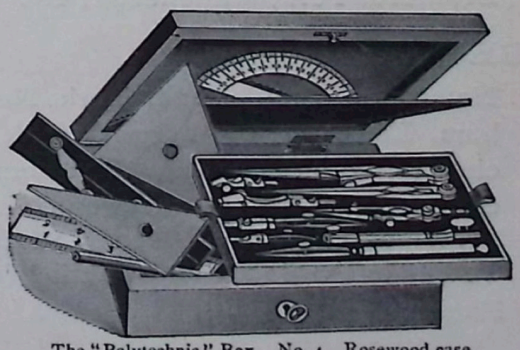

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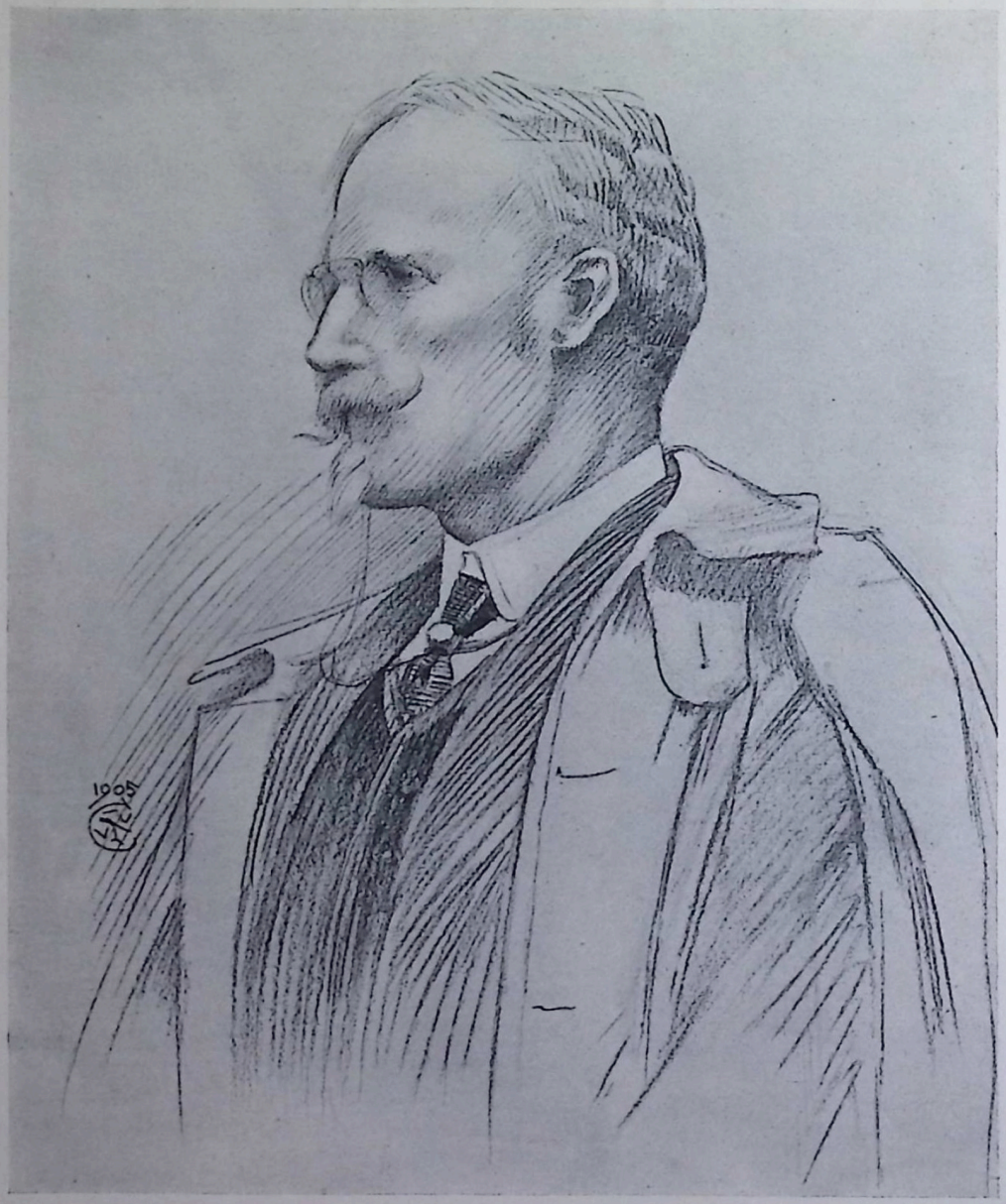

PORTRAIT OF WALTER CRANE

DRAWN IN LEAD PENCIL BY HIMSELF

·ARTS & CRAFTS·

A Monthly Practical Magazine for the Studio, the Workshop, and the Home.

1/= Net, Monthly. DECEMBER, 1905. Vol. IV. No. 19. 15/= Yearly, Postage paid.

Masters of Arts and Crafts.

I.—WALTER CRANE.

WE have just read that the jury of the Venice International Exhibition, under the distinguished presidency of the Director of the Luxembourg, have decided to place on the "Hors Concours" List, as being beyond the reach of any honours they could bestow, the names of Walter Crane and one other Englishman—J. W. Waterhouse. So far as Mr. Walter Crane is concerned, this is not surprising. Two years ago, at the Turin Exhibition, King Victor Emmanuel conferred upon him the insignia of Commander of the Crown of Italy. On the Continent, perhaps the name of no British artist is so well known as that of Walter Crane, and surely his place in the history of art of his own country is secure beyond cavil.

An accomplished painter of easel pictures, Walter Crane has won many honours at home and abroad, and if one hears of him less in this department of art than in that of the so-called applied arts, with which his name has become more especially identified, this is due in no small degree to the view he takes that the first duty of any painting is to be decorative, and that he exemplifies this in his own canvases. In his "Ideals in Art," just issued by Messrs. George Bell & Sons, he remarks: "I am still of opinion that the easel picture, properly considered and placed in its right relationship to its surroundings by judicious treatment and hanging, and above all by a certain mural feeling, may be the acme of decoration." While holding this view, he recognises the fact that big modern exhibitions like that of the Royal Academy "have, perhaps, done more to destroy the decorative relationship of the easel pictures than anything. An analogous effect is produced on the mind by the sight of so many pictures of so many different sorts, subjects and scales, and treatments crowded together, to that produced by a surfeit of ornament, and pattern on pattern, in internal decoration. This seems to point to the fact that true decoration lies rather in the sense of proportion and arrangement or distribution than in the use of particular units of ornament, styles, colours, or materials, and that one may destroy decorative effect by the very means of decoration."

He is equally at home in oil colours, water colours, and tempera. The use of gesso, a very old medium of artistic expression, may be said, practically, to owe to him its revival in modern times. There is no recognised medium with which Walter Crane is not ready to experiment, and there seems no end to his resources in the invention of new combinations. At the present moment may be found upon his easel a highly decorative work in tempera, which he is retouching with brilliant effect by the aid of Raffaelli colours. He uses these solid sticks of pigment over the tempera, like pastels, with the added advantage, however, that they combine perfectly with the latter, which, of course, pastels would not do. Gesso and tempera could hardly be satisfactorily brought into combination on the same plane; but in Mr. Crane's triptych of "The Brier Rose," which was shown at the recent exhibition of the Society of Tempera Painters, we find that, while the story itself of "The Sleeping Beauty" is brilliantly portrayed in tempera, the exterior decoration of the triptych is in coloured gesso.

To return to the subject of easel painting. One recalls such a wealth of exhibition canvases by Walter Crane as would in itself constitute no mean representation of the life-work of an artist who had restricted himself to this genre. They comprise a wide range of subject, much diversity of treatment, and, we need hardly add, that they vary, as in the case of all painters who are not mere machines, in degree of successful accomplishment. Mr. Crane's fertility of imagination and versatility in method of expression are truly extraordinary, yet hardly more so than the great industry they represent.

Our outline drawing by Mr. Crane, illustrating his charming allegorical painting, shows one of his most successful contributions to the Grosvenor Gallery. We should add that the whole composition is not shown here, the temple in the painting showing the stars shining through it. The theme is derived from the following verses in the Rubáiyát of Omar Khayyám:—

> Would but some wingéd angel, ere too late,
> Arrest the yet unopened roll of Fate,
> And make the stern recorder otherwise
> Enregister, or quite obliterate!

Ah love! could you and I with him conspire
To grasp this sorry scheme of things entire,
Would we not shatter it to bits—and then
Remould it nearer to the heart's desire!

The artist has produced a variety of mural decorations in various mediums. Unfortunately, his most important mural is not to be seen in this country. It is the frieze illustrating Longfellow's poem "The Skeleton in Armor," which he executed in oil colours, on canvas, for the dining-room in the mansion of Miss Catherine Wolfe, of Newport, Rhode Island, U.S.A., which at that lady's decease passed with the house to her kinsman, Mr. Louis Lorillard. Mr. Crane has admirably caught the virile spirit of Longfellow's stirring story, which, by the way, supports the interesting theory that the continent of America was visited by the Vikings centuries before Columbus. Our illustrations are of two over-door decorations.

Plastic relief seems to have a special fascination for Walter Crane. Some of his most important work of the kind is to be seen in the large saloon of Dr. William Spottiswoode's country house at Sevenoaks, the ceiling, which is especially elaborate, being decorated with figure designs in relief gilded and silvered in various tones. He has been equally successful with his mural work at Mr. Ionides' house at Holland Park. This consists of a coffered moulding ceiling in square panels with a branching conventional design, and a frieze also panelled in squares, illustrating stories from Æsop's Fables, the whole being silvered and decorated with coloured lacquers. The sideboard and mantelpiece are also decorated with gesso designs by Mr. Crane, who further contributed the designs for the electroliers, and a set of finger-plates, the latter again being in gesso.

In the picture gallery of Sir F. Wigan, at Clare Lawn, he has done another frieze in plaster and gesso, symbolising the arts; and still another frieze, in higher relief, facetiously illustrating the history of Locomotion and Transport, for the dining-room of a house at Paddockhurst, built for Sir Weetman Pearson, by Sir Aston Webb.

In no branch of applied art has Mr. Crane attained more success than in that of wall-paper designing; he has been equally successful in weaving his highest fancies, of flowers, fairies, and hob-goblins, into mural decorations for the nursery, and in planning the more dignified and sober design for the dining-room of the opulent merchant. As a designer for nursery decoration he stands alone, despite various imitators who have fattened on his success, but failed to find the secret of his art. It all seems so easy. There is a suggestion in the remarks of one of Mr. Crane's critics that, by some process of adaptation, our artist has been able to transfer to the walls of the nursery designs he made for his toy-books. This is a curious illustration of the ignorance which prevails in regard to the technical difficulties of the wall-paper designer. These difficulties, great as they are under ordinary conditions, must have seemed well nigh insuperable in the planning of such papers as "The House that Jack Built," designed for Messrs. Jeffrey & Co. The clever management of some of the repeats might alone excite the admiration of the initiated. But of course there is much more than this in Mr. Crane's nursery wall papers. He was the pioneer in this now common enough branch of wall-paper manufacture, and we can imagine how severely handicapped he may have been in working, with no precedents of practice to guide him, with no designs of a similar genre to compare with his own.

Technical considerations apart, there is certainly some analogy between Walter Crane's toy-books and his nursery wall papers. While he could hardly have been helped much in the latter by the colour schemes of the former, as has been suggested, it is likely that the results of some of his experiments in planning his toy-books may have been useful to him in the designing of his nursery papers.

The colour schemes for Mr. Crane's wall papers, such as are illustrated herewith by the courtesy of Messrs. Jeffrey & Co., are rich and restful to the eye, his usual practice being to confine himself to a single local tint as a base, and play upon this by a blend of harmonies rather than by contrasts. By this means he attains to a degree of restfulness in the ensemble which would seem impossible, and to one who would try, by means only of a representation of the design in black and white, to judge of the actual effect. Of course, reproduction in black and white can do no more than indicate the measure of the artist's skill as a pattern maker. In the final result, the evidence of this is almost lost in a homogeneous combination of the various elements in which, despite all the skill which may have been lavished upon it, the pattern is a mere incident.

One of the most charming of Walter Crane's wall papers undoubtedly is the "Rose Bush," and we are sorry we cannot find room for an illustration of it. It is more simple than most of his designs of the kind, and is certainly not liked the less on that account. Sometimes the artist furnishes a few notes about his papers, expressing any special ideas he had in view about them. For instance, the "Rose Bush" design, we are told, is appropriate to a dining-room or living-room where a rather dark and rich effect is aimed at. It would harmonise with oak framing and furniture. That is obvious enough, but with the "Lion and Dove" frieze, which goes with it (see page 24), he gives this quaint description:—

In this frieze are introduced the permanent emblems of Courage and Meekness, of Strength tempered with Sweetness, which shall be the mark of good souls, who by such tokens cause Roses to blossom upon the thorny paths of Life.

Among other wall papers besides those we have illustrated are the "Corona Vitæ," a mystical design in which the tree of life with the serpent coiled round its trunk, and female-headed sphinxes guarding it, alternate with griffins and peacocks framed in by fanciful flowers and foliage; the "Peacock Garden," in which the gorgeous birds make their way—great scrolls of conventionalised

DRAPERY STUDY BY WALTER CRANE

From "The Art of Walter Crane." (By permission of Messrs. George Bell & Sons)

poppy leaves and flowers ; the "May-tree" frieze, and "The Sleeping Beauty."

In 1904 "The Financial News" celebrated its twenty-first birthday by publishing a sixty-page issue of the journal, and Walter Crane was commissioned to furnish a decorative border for every page. His satisfactory accomplishment of this difficult undertaking we consider one of his most extraordinary achievements. Each branch of industry and commerce was illustrated by decorative borders, introducing its special emblems, the designs as a whole showing amazing fertility of invention. The designs were drawn with the brush, "processed" and printed in two colours—which were varied with each page. One of the cleverest, perhaps, is that illustrating the Printing Press, represented in this instance by the Argus Printing Company, an enterprising monster with capacious jaws, who is being fed with lightning-like rapidity.

In other decorations we have Electricity, the Motor Carriage, the Telephone, the Phonograph, and many another triumph of modern science typified with Mr. Crane's characteristic ingenuity of composition and grace of line. As originally published each measured 19 in. by 23 in. Our reproductions are on a greatly reduced scale, and give only portions of a few of the borders. A copy of "The Financial News" showing Mr. Crane's work complete may be found in the Art Library of the Victoria and Albert Museum.

Walter Crane's work is full of contrasts, illustrating his wonderful versatility, and where could one find a greater contrast than that between his typographic decorations for "The Financial News" in 1904 and those for the International Bible in 1901? The latter, printed simultaneously in several languages and illustrated by distinguished artists of various nationalities, owes much of its attractiveness to its distinguished English contributor. Any examples we might give of them would suffer by considerable reduction, so we utilise some of the space in our supplementary sheets to show at least the title-page in nearly its original size. Elsewhere we give the headpiece of a page beginning one of the Gospels. The rest of this particular decoration is only an ornament dividing the text into two columns. Mr. Crane also supplies this work with a very beautiful series of initial letters, which, while almost pictorial in treatment, do not overstep the bounds of typographic convention. The broad margins, open spacings, and large legible type make up a page that affords an agreeable contrast to that of the pages of the Kelmscott folios with their oppressive over-decoration.

As a designer of Mosaic decoration, the frieze in the famous Arab Hall in the mansion of the late Lord Leighton bears testimony to his skill. He has designed, too, with success for pottery firms. Some metallic glazed ware and other commissions executed for Messrs. Maw & Co., among which were some sets of 6 in. tiles illustrating Nursery Rhymes, and a set of 8 in. tiles of the Seasons of the Year and the Times of Day which wereclassical in treatment. These were etched on copper in outline and printed and transferred to the tile, and afterwards coloured by hand. There were also a set of vases for lustre ware, showing something of Etruscan influence, in form and decoration. There are also his large decorative slabs and floral tiles, designed for Messrs. Pilkington & Co., which are particularly worthy of notice, the decoration being by the so-called "Cloisonné" process, which, by the raising of certain lines in the design, checks beyond prescribed limits the flow of the different coloured glazes employed.

"SUNRISE" · DRAWN BY WALTER CRANE FROM HIS PAINTING EXHIBITED AT THE ROYAL WATER COLOUR SOCIETY · 1888

"AN IDYLL"· FROM THE PAINTING
BY WALTER CRANE

TAIL-PIECE BY WALTER CRANE. FROM "THE ELVES."

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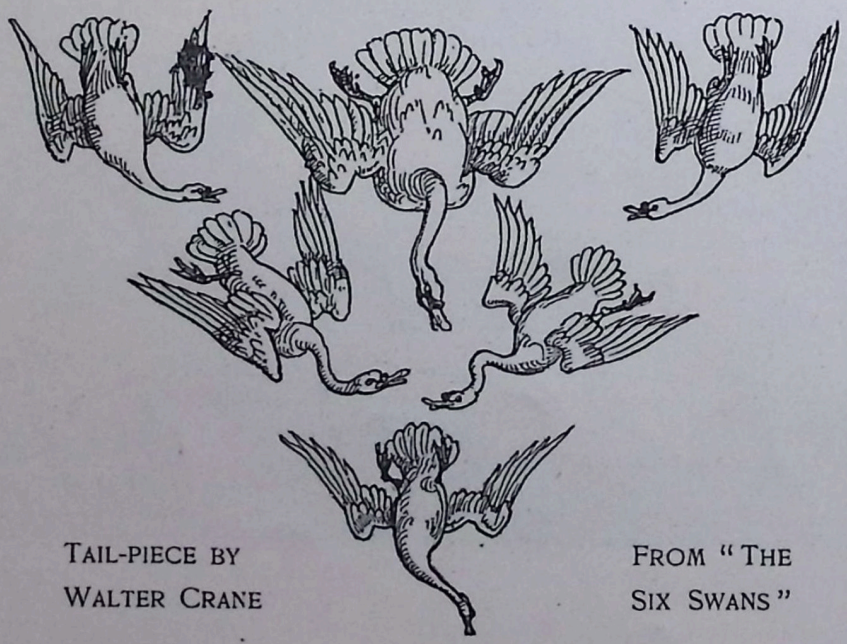
Many of the Manchester manufacturers have produced from his designs textile fabrics in woollen and silk, and some in printed cottons. At Leek, Messrs. Wardle & Co. have produced printed tussore silks and carpet designs in Wilton and Brussels. John Wilson & Sons' Successors produced beautiful damasks of his design, notably the fine series illustrated herewith, with a border of animals of the chase.

In 1875, having some panels to decorate for the frieze of a dining-room, it occurred to him to experiment with Gesso after the early Florentine method. So he modelled his design in low relief in plaster of Paris and glue, with cotton wadding used as fibre, applied to ordinary canvas, and the work was afterwards gilded. Later he had the opportunity of doing a much larger piece of work in the same way, as the main feature of a scheme of decoration for the large drawing-room of Dr. Wm. Spottiswoode, at Coombs Bank, Sevenoaks.

Among the most notable works in stained glass may be mentioned "St. Paul Preaching at Athens," in a church at Newark, New Jersey (U.S.A.), with figures from 10 to 12 ft. high; a very notable complete set of windows for "The Ark of the Covenant"—the church of the Agapemone—at Stamford Hill. The three two-light windows forming the apse show in the centre the symbols, the Lion of the Tribe of Judah and the Dove, and on either side the Translation of Enoch and the Translation of Elijah. The design of the large four-light west window represents the rising Sun of



TAIL-PIECE BY WALTER CRANE FROM "THE SIX SWANS"

(By permission of Messrs. MACMILLAN & Co., Limited.)

and emblems, but there is no confusion, no crowding. Every detail of the drawing is perfectly clear, and takes at the same time its proper place in its relation to the whole design." In "The Triumph of Labour" he has given the noblest and most artistic expression to the ideas and convictions for which his whole career has been a long and disinterested fight. In this design Walter Crane rises to real greatness.

Walter Crane's illustration work commenced at the early age of fourteen, when he contributed to "Once a Week" and "Good Words."

A very early effort, "The Lady of Shallott," was hung at the Academy in 1862, and in 1866 the opening of the Dudley Gallery gave him the opportunity of exhibiting a water-colour drawing, and he continued to exhibit there every year until it was swallowed up by the Institute in Piccadilly. At this time he produced toy-books with coloured designs published by Warne & Co., and Routledge, ending the series in 1876. In the first few he was limited to three colours, that is to say, the key block and a red and blue. He considers that the influence of his trip to Italy is felt in the treatment of "The Sleeping Beauty in the Wood," one of these sixpenny toy-books.

In 1877 "The Baby's Opera," published by Routledge, appeared, a 5s. book which has reached a sale of 50,000 copies; it contained 12 full page pictures, and every page was bordered, and the whole printed in colours, with music selected and arranged by his sister, Miss Crane.

In 1879, "The Baby's Bouquet" appeared, and was almost as successful as the companion volume; later followed "The Baby's Æsop."

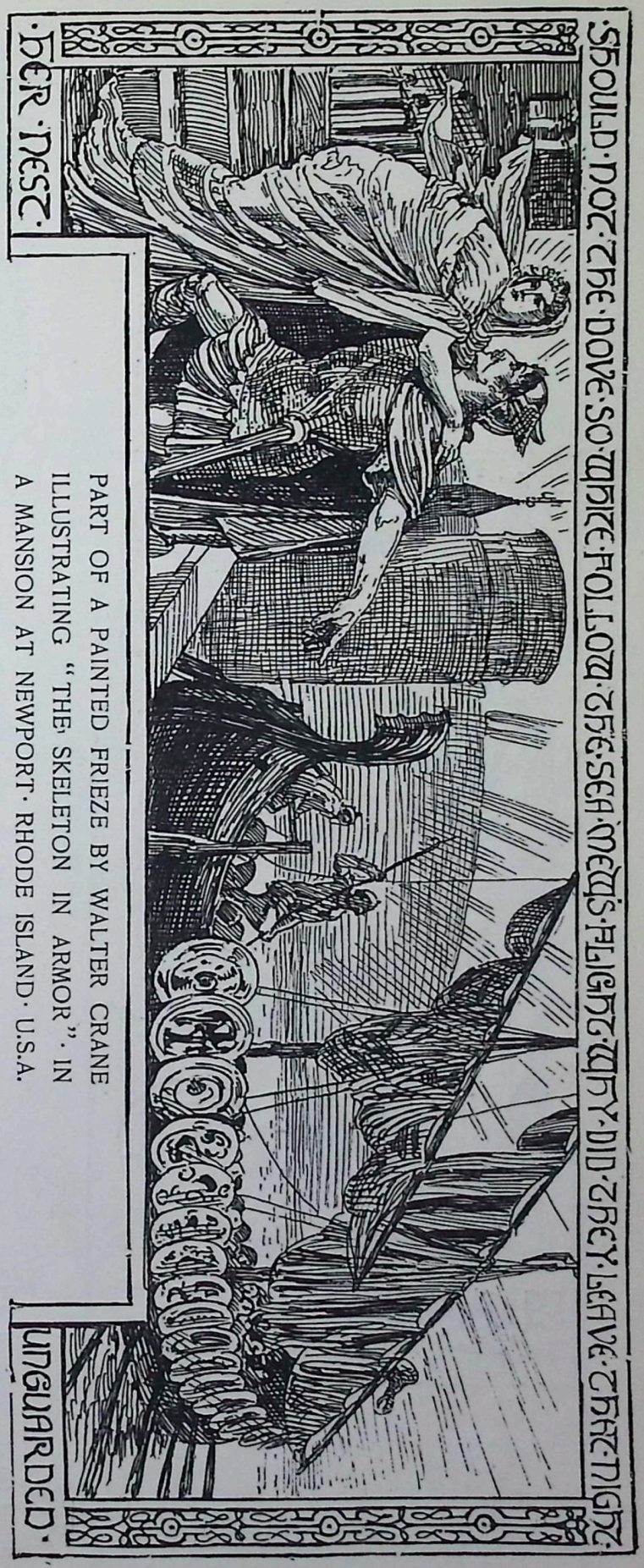
What kind of toy-books were those upon which children were brought up before Walter Crane set the standard for better things by bringing out in 1865 his first illustrated lyrics for the nursery?

"Children's books and so-called children's books hold a peculiar position. They are attractive to designers of an imaginative tendency, for in a sober and matter-of-fact age they afford perhaps the only outlet for unrestrained flights of fancy open to the modern illustrator who likes to revolt against the despotism of facts."

Mr. Crane has been associated with this form.

With him illustration and decoration go hand in hand, and he is not satisfied unless the text accords with the pictures. Not infrequently he takes the trouble to ensure this by doing the lettering himself, as in the "Baby's Own Æsop," in which the balance between drawing and text is admirably retained.

In the personal notes on his work he wrote many years ago for "The Art Journal Easter Annual," he said: "I have been accustomed to introduce into these children's book designs not only pictorial ideas which influenced me at the time, but any passing impression or whim of fancy or form, as in details of dress, furniture, and decorative pattern, and, although the production of these books could hardly be regarded by either designer or printer as exactly lucrative, they led the way to other work,

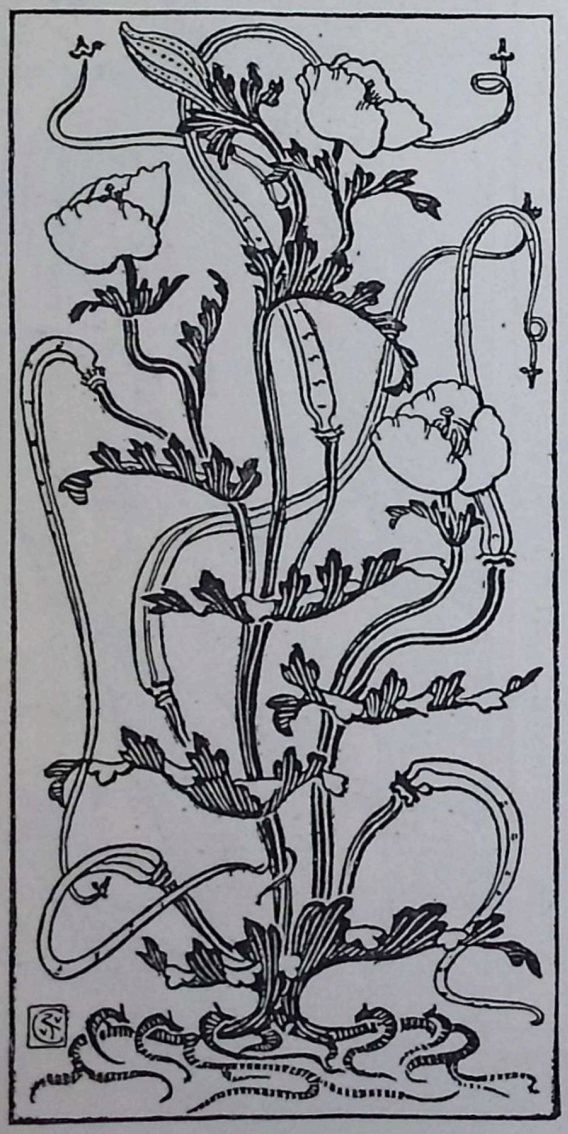


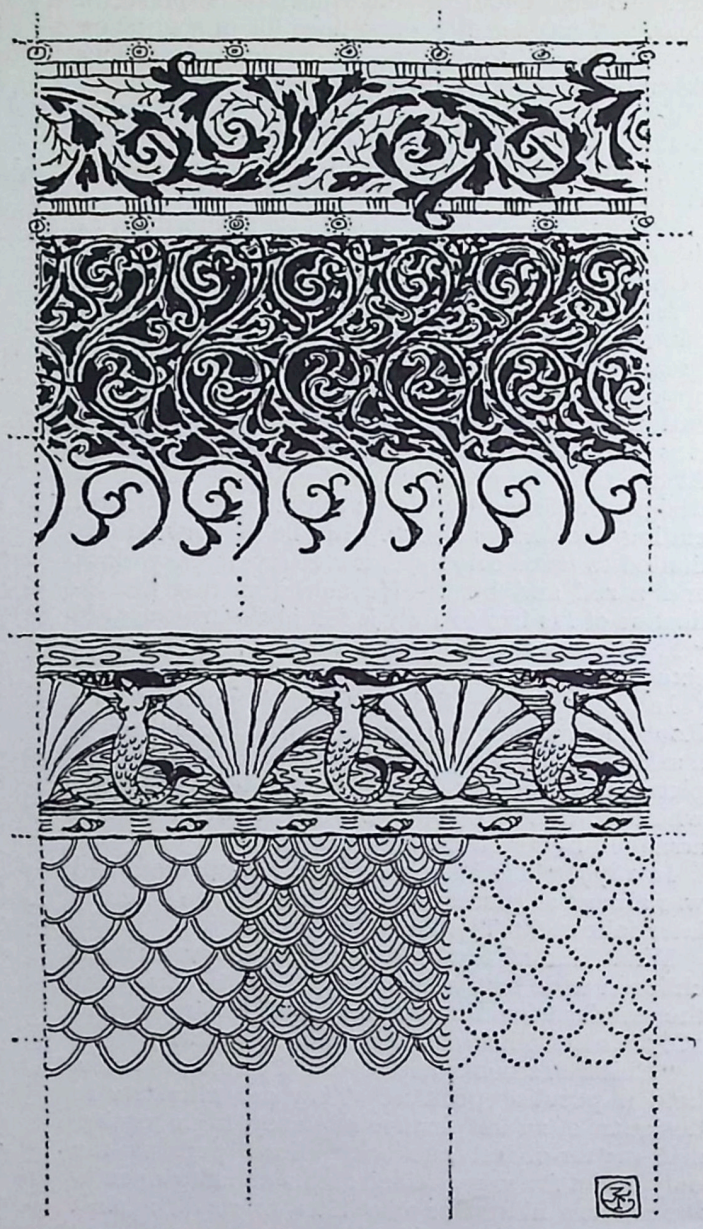
PART OF A PAINTED FRIEZE BY WALTER CRANE ILLUSTRATING "THE SKELETON IN ARMOR". IN A MANSION AT NEWPORT· RHODE ISLAND· U.S.A.

EXAMPLES OF APPLIED DESIGN BY WALTER CRANE

From "Line and Form." (By permission of Messrs. George Bell & Sons)

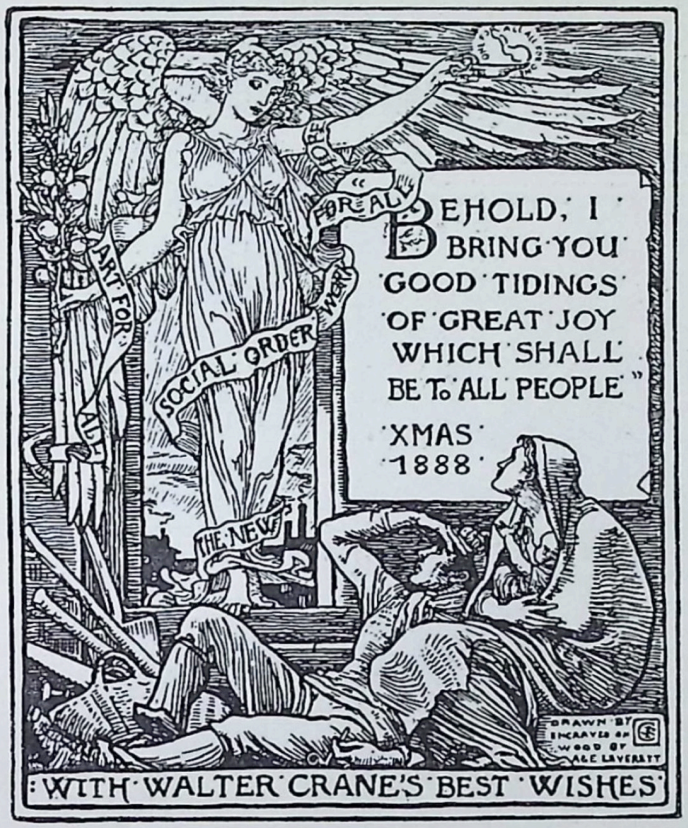
Adaptation of the Horned Poppy for Needlework





Sketches to show relation between Frieze and Field in Wall-paper

and had considerable indirect effect, besides being an unfailing source of amusement and interest—at least, to their designer—and a means of suggestion in details of design in decoration and colour schemes of various kinds."



The third series of nursery books, which were published in 1885, by Marcus Ward, not only differed from their predecessors in being more didactic—albeit most mildly and playfully so—but also in the technique of the illustrations, which are shaded like actual water-colour drawings, instead of being only outlines filled in with flat tints. Among these booklets were "Slate-and-pencil-vania," "Little Queen Anne," and "Pothooks and Perseverance." Then there is the delightfully humorous "Mrs. Mundi at Home," in which Mother Earth, or the Spirit of the World, gives a party, and invites the great Lord Sol and Lady Luna, with all her neighbour planets and principal astronomical luminaries, with the four seasons, and the elements—rain, hail, frost, snow, dew—and, in addition to these, the deities of the sea, together with all sorts of human notabilities and nationalities, the whole forming a fantastic masque. Among the features of the notabilities you may find those of William Morris, Swinburne, Rossetti, Tennyson, and Browning. The illustrations are uncoloured, being drawn boldly with pen and ink in outline, with a few additional touches to suggest, when necessary, planes of anatomy or folds of drapery.

It should be noted that when Marcus Ward retired from business a few years ago, the copyrights of all these books were acquired by McCaw, Stevenson & Orr, Ltd., London and Belfast.

Again, we have something quite different in technique in the dainty drawings for "The First of May." They were done in lead pencil and beautifully rendered in photogravure by the Goupil process, in 1881, for the publishers, Messrs.

THE GRAPHIC AND DECORATIVE TREATMENT OF THE DRAPED FIGURE. BY WALTER CRANE.

(From "LINE AND FORM." By permission of Messrs. GEORGE BELL & SONS.)

Sotheran & Co. Our reduced reproductions, we must admit, fail to do justice to the exquisite silvery quality of the original drawings.

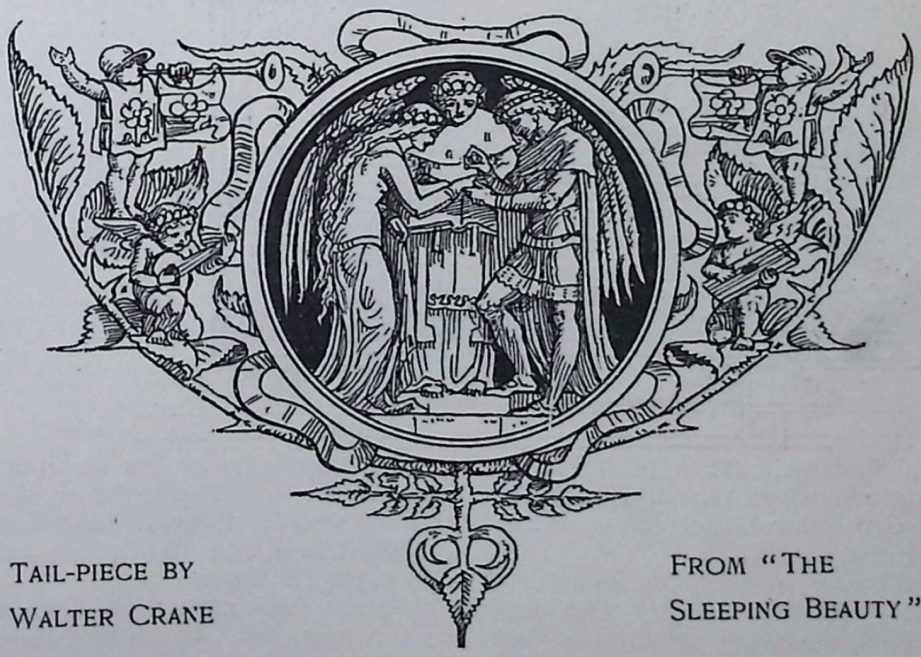
For Macmillan, in 1880, he illustrated Miss De Morgan's "The Necklace of Princess Florimonde"

DESIGNED BY WALTER CRANE FOR GRIMM'S HOUSEHOLD STORIES

(By permission of Messrs. MACMILLAN & Co., Limited)

TAIL-PIECE BY WALTER CRANE. FROM "KING THRUSHBEARD."

ILLUSTRATION BY WALTER CRANE. FROM "THE RABBIT'S BRIDE."



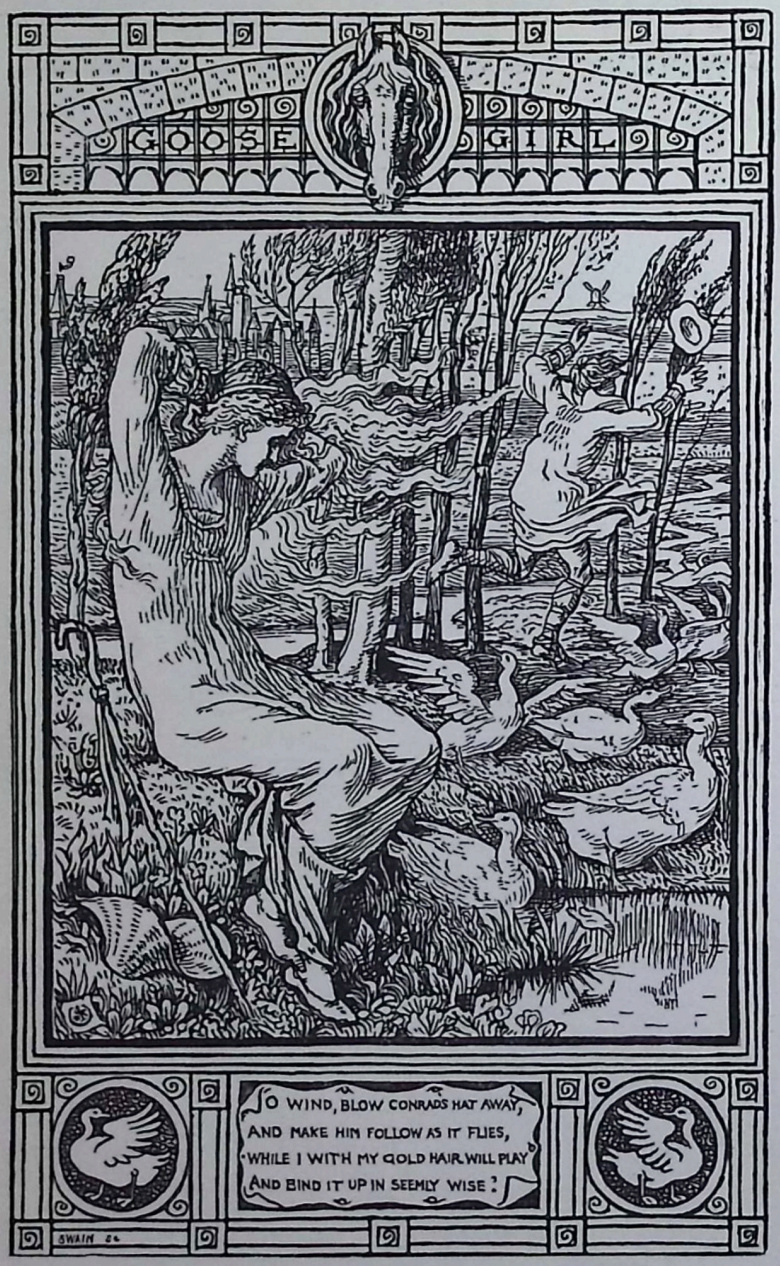
TAIL-PIECE BY WALTER CRANE FROM "THE SLEEPING BEAUTY"

(By permission of Messrs. MACMILLAN & Co., Ltd.)

and other stories. This was followed with an illustrated "Grimm's Household Stories" in 1882, the drawings all being photoed upon wood and engraved by Messrs. Swain. One of them, "The Goose Girl," took the fancy of William Morris, who got him to make a large cartoon of it 8 ft. by 6 ft., which he reproduced in tapestry, after exhibiting it at the Grosvenor Gallery at a winter exhibition of decorative design.

Lithography was used in "Flora's Feast: a Masque of Flowers" (Cassell, 1889). The outlines were processed, and he coloured a set of the proofs as a guide to the chromo lithographers. This was as great a success as "Baby's Opera."

While in New York, in 1891, he illustrated and decorated the "Wonder Book" of Hawthorne, with designs in colour.



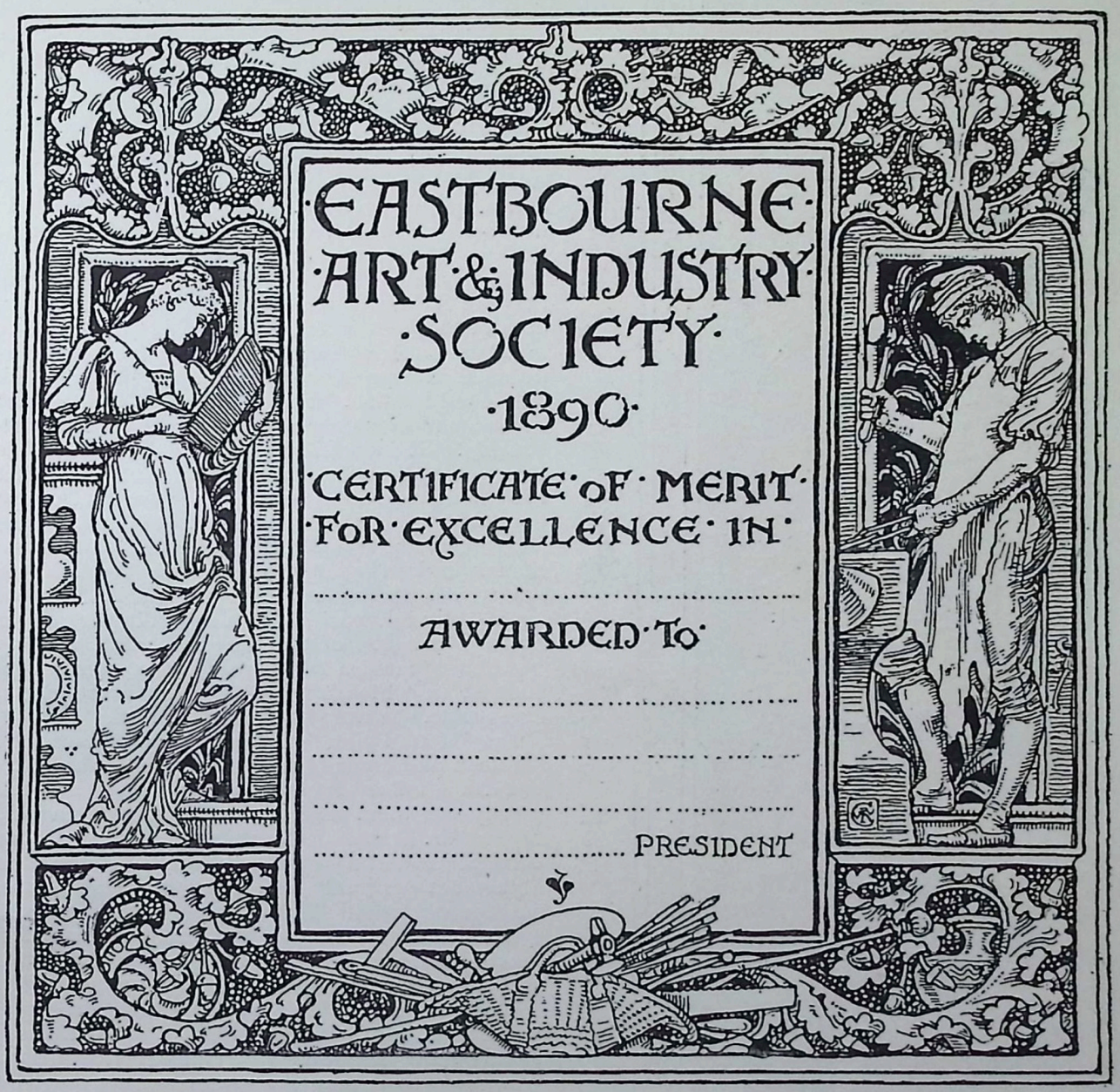
THE GOOSE GIRL DESIGNED BY WALTER CRANE FOR GRIMM'S HOUSEHOLD STORIES AND ADAPTED BY HIM FOR THE TAPESTRY BY WILLIAM MORRIS NOW IN THE VICTORIA AND ALBERT MUSEUM

(By permission of Messrs. MACMILLAN & Co., Limited)

The popularity of his children's books is undiminished. In 1895 he began the reissue of the old toy-books through John Lane, buying the original blocks from Routledge; but designing new end papers, and new covers.

Without sufficient reason, as it seems to the present writer, Mr. Crane has been criticised for dispensing with the living model. An ordinary art

student might, no doubt, be justly chided on such a count, but hardly a master who, literally, has the human form at his fingers' ends. To require such a man to pose a model for any ordinary decorative purpose would only tend to handicap him. Like the sympathise with his point of view. "Imitative art," he remarks, "obviously depends much upon fidelity to the forms and aspects of nature," imaginative art but little. The artist may draw entirely from memory, or invent freely as he goes



CERTIFICATE OF MERIT

DESIGNED BY WALTER CRANE

Bohemian reviewer who, when taken to task by his editor for not having even cut the leaves of the volume sent to him for criticism, put in the plea that reading a book always prejudiced him against it, Mr. Crane might say that knowing too much about his model would hamper his imagination. In fact, he virtually does say this very thing, and it is easy enough to on, and nature may become quite transfigured in his hands. At all events, I feel convinced that in all designs of a decorative character an artist works most freely and best without any direct reference to nature, and should have learned by heart the forms he makes use of. We draw or paint, perhaps, as much influenced by what we know as

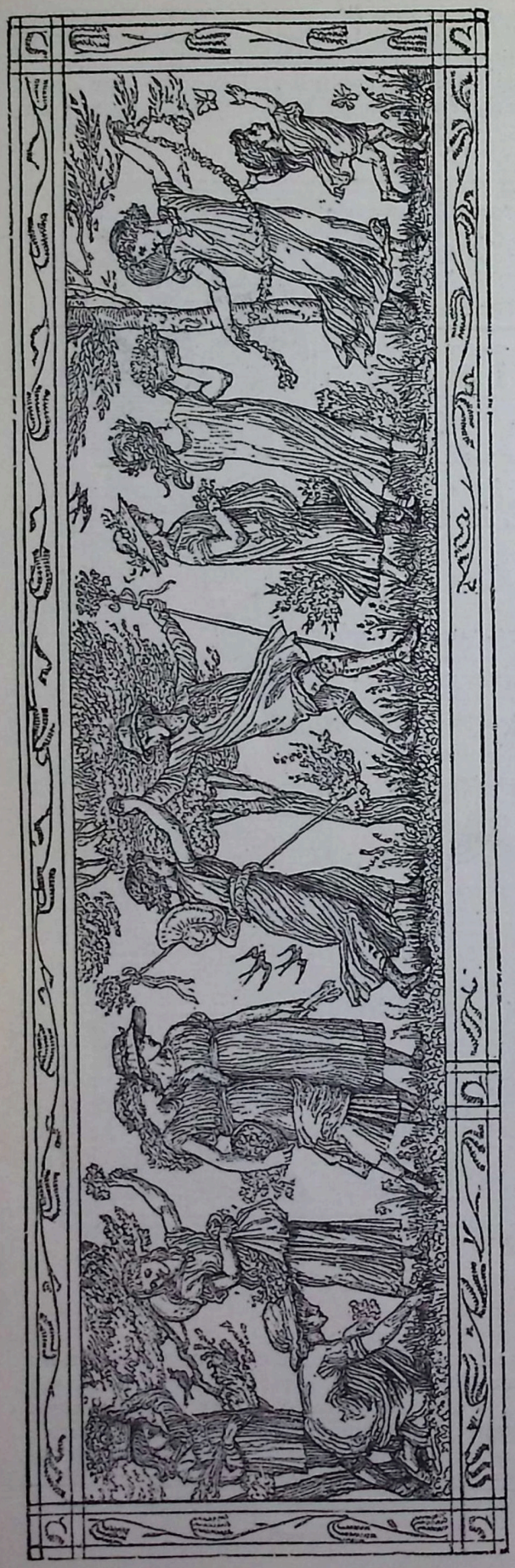


ILLUSTRATION (REDUCED) FROM "THE FIRST OF MAY." BY WALTER CRANE. (By permission of Messrs. SOTHERAN & Co.)

what we actually see." It is difficult to suppose, however, that, at least, on such a painting as "The Renascence of Venus," with its beautifully modelled forms, the artist painted without a model—for the principal figure, at all events.

With his fertile imagination and his facility for recording teeming fancies of his brain, it ought to be easy to understand that he can afford to ignore acadamic methods which would be fatal to the adequate expression of his art. As in his beautiful picture of "The Mower," the swing of whose deadly scythe encompasses the destruction of the field flowers, the latter are to the artist not so much actual flowers as the gambolling children and joyous maidens he represents. Again, too, in that exquisite painting, "Neptune's Horses," the white-crested waves, tumbling over each other as as they break upon the shore, are waves to the artist only incidentally; when he is painting them they are the living things in his imagination. In both of these examples, although fidelity to nature in all essentials is insisted on, one feels that untrammelled expression of the artist's fancy was his first consideration. Flowers to him are always human, and how poetically he conceives their personality. See his Lilies of the Valley draped in their own beautiful leaves, the Daffodils, with their floral caps and trumpets, the swarthy Poppy's courtship of the yellow corn. No one would suggest, we presume, that the artist should use models in drawing figures so purely fanciful; but we would go further, and vehemently protest against any interposition of a model in the rendering, for example, of that impossibly tall, willowy, bewitching maiden fair in pale green, personifying June 21 in "Flora's Feast." If she were not so impossible, she would be less delightful.

In "Moot Points" Lewis F. Day remarks that "human and animal forms are, as often as not, a disturbing influence in repeated pattern," and asks "Why use them there?" "For three reasons," replies Mr. Crane. "Because their forms give me certain lines and masses decoratively valuable and not obtainable by other means. They give life and movement in ornament. By the use of such forms, also, symbolic meaning may be expressed (or concealed), fanciful allegory or playful ideas. In short, they make ornament more interesting and amusing."

They certainly do, as employed by Mr. Crane, who, without rendering them too realistically, avoids such extremely conventional treatment as would rob them of any suggestion of life.

To recount all the honours showered on Walter Crane at home and abroad would take up too much space, but we may name the more important of them. At the Paris Salon of 1889 his picture "The Diver" was awarded a silver medal, and in 1895 a gold medal was won at Munich for "The Chariots of the Hours." The Society of Arts in 1886 bestowed on him their silver medal for his lecture on "Applied Arts and their Relation to Private Life." At the Paris International Exhibition in 1900 he won a gold and a bronze medal. The same year he was received with extraordinary honours at

ILLUSTRATIONS (REDUCED) FROM "THE FIRST OF MAY." BY WALTER CRANE." (By permission of Messrs. SOTHERAN & Co.)

CORNER OF A PAGE BORDER DESIGNED BY WALTER CRANE FOR THE JUBILEE NUMBER OF THE FINANCIAL NEWS

Buda-Pest as the guest of the Hungarian nation, having been especially invited by the Minister of Art and Education to visit the capital and give an exhibition of his work for the benefit and instruction of art workers in Hungary. He was Director of Design at Manchester Municipal School of Art from 1893 to 1896, and Hon. Director of Art at Reading College in 1898.

In 1902, by special invitation, he organised the English Section of the First Exhibition of Modern Decorative Art at Turin, and served on the international jury, and in 1904 he was one of the Committee of the British Fine Arts Commission at the World's Fair, St. Louis. His latest honour abroad, viz., being placed on the list of artists "Hors Concours" by the International Jury at the Venice Exhibition, has already been noted. The connection of Mr. Crane with the South Kensington authorities has been varied, but it has been continuous for a score of years. For that period he has been one of the examiners at the Science and Art Department, and he is a member of the Council of Art of the Board of Education. In 1898-99 he became principal of the Royal College of Art, but resigned because he found that the position interfered too much with his creative art work. Mr. Crane is a member of the Royal Society of Water Colours, of the Society of Painters in Tempera, and Past Master of the Art Workers' Guild. He was the first President of the Arts and Crafts Exhibition Society, and is the present head of that important organisation. J. L. M.

Stained Glass.

By A. Booer.

By way of an introduction to the illustrated articles on modern methods of glass staining and other glass decoration for windows, which are now in preparation for the magazine, we avail ourselves of the privilege of publishing, somewhat condensed, an historical review of the subject by a practical man whose knowledge and long experience in this subject warrants him in speaking about it with authority. The essay is the basis of a lecture which, illustrated with lantern slides, Mr. Booer has delivered to interested audiences in various parts of the Kingdom.—Ed. A. & C.

THERE are still many persons who believe that there were certain technical secrets known to the glass-stainer of olden times which are lost to the present manufacturer, and that it is impossible to produce some of the colours and effects which were produced in the Middle Ages. This idea is simply nonsense. It originated with the parrot-like tales which are told by the vergers and showmen in our old cathedrals and churches, who continue to perpetuate the fiction. Ask one of them how he knows that coloured or stained glass could not be produced now equal to that in his cathedral or church, and the reply is invariably: "I only repeat what I have been told to say," and he will go on saying it.

There is no mystery or secret about the composition of old glass, white or coloured, or the method of treating it. Glass is now made, not only equal to, but in texture and brilliancy much superior to any of the best of the old examples.

Tracing the history of glass manufacture, the lecturer naturally discredited the story told by Pliny of some shipwrecked Phœnician mariners

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who, finding no stones to support their cooking-pots, used lumps of natural soda they had on board, and found, after the fire had been put out, that the soda had fused with the sand on the beach and formed glass. As he pointed out, this story, both from chemical and technical considerations, was incredible. On the other hand, the oldest specimens of glass originated in Phœnicia or Egypt, and glass-blowing is depicted in full operation in the reliefs on the Royal Egyptian tombs about 1800 B.C. Objects in the museums prove beyond doubt that fully 4,000 years ago the Egyptians were masters of the arts of producing white and coloured glass, and knew all about glass smelting. They seem also to have understood the application of certain permanent colours to portions of glass surfaces, thus laying the foundation of the technical industry and the art of glass-painting.

Up to 58 B.C. the glass made and decorated seems to have consisted of such objects as vases, urns, tear-bottles and beads. Flat glass for windows or other purposes was unknown. In that year, however, there is a record of a theatre at Scaurus being decorated with mirrors of glass plates. Of glass for windows the first undoubted traces date from the fourth century of the Christian era, but it differed in its nature materially from that of the present day. It was made in small, irregular panes of unequal thickness, and yellowish bottle-green in colour. A similar coloured glass was used in Rome in the ninth century for church windows. This was effected by the chromatic grouping of dark-coloured glasses in leaden frames. Subsequently the individual panes were arranged in

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geometrical order, after the style of mosaics, and, finally, by the juxtaposition of suitable coloured glasses, cut to shape, pictures were produced, but it was only at a much later period that the cut pieces were provided with painted outlines and more or less shading, by means of vitrified metallic colours fired into the surface of the glass. Only one pigment—called "black flux"—was at the disposal of the artist in those days.

The glass-painter himself had not only to prepare his colours and designs, but he had to make and cut the glass. His procedure was as follows: A wooden table made to the size of the proposed window was first rubbed over with chalk and water and left to dry. Then the outlines of the picture were drawn in red or black, the different colours of glass to be employed being indicated by letters. Pieces of glass were laid upon the table and the lines were traced upon the glass in white. The glass was next cut to the required shapes by means of a red-hot iron. The pieces were then placed together for the purpose of being painted. The black flux—a combination of copper scale with blue or green lead-glass—served as the pigment, and the painter drew therewith the details of his design, called the tracing; shading was produced by cross-hatching. Where light was required the glass was left uncovered. Diapered effects were produced on garments or backgrounds by matting, or laying the glass all over with the black flux in half-tint and by etching.

For firing this black flux a kiln was made in the following manner: Rods were stuck into the ground, the top ends bent to form an arch, and bound together, forming a tunnel about eighteen feet high and wide and about two feet long.

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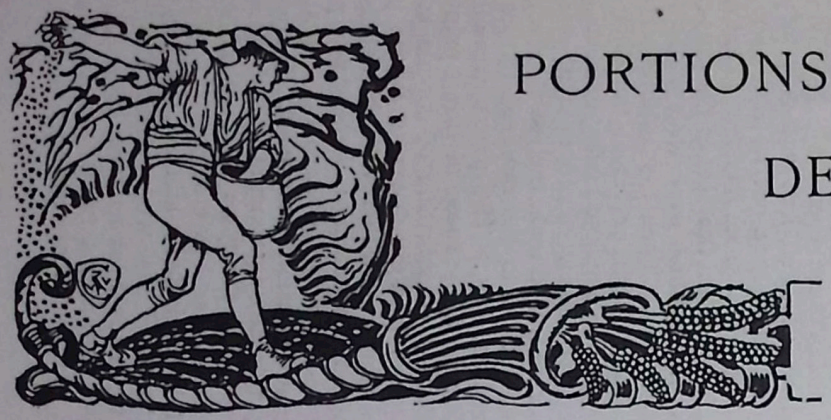

PORTIONS OF TYPOGRAPHIC DECORATIONS

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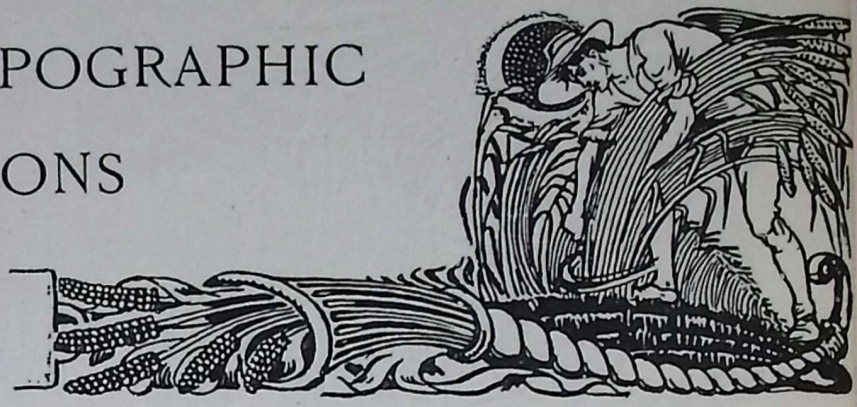

WALTER CRANE

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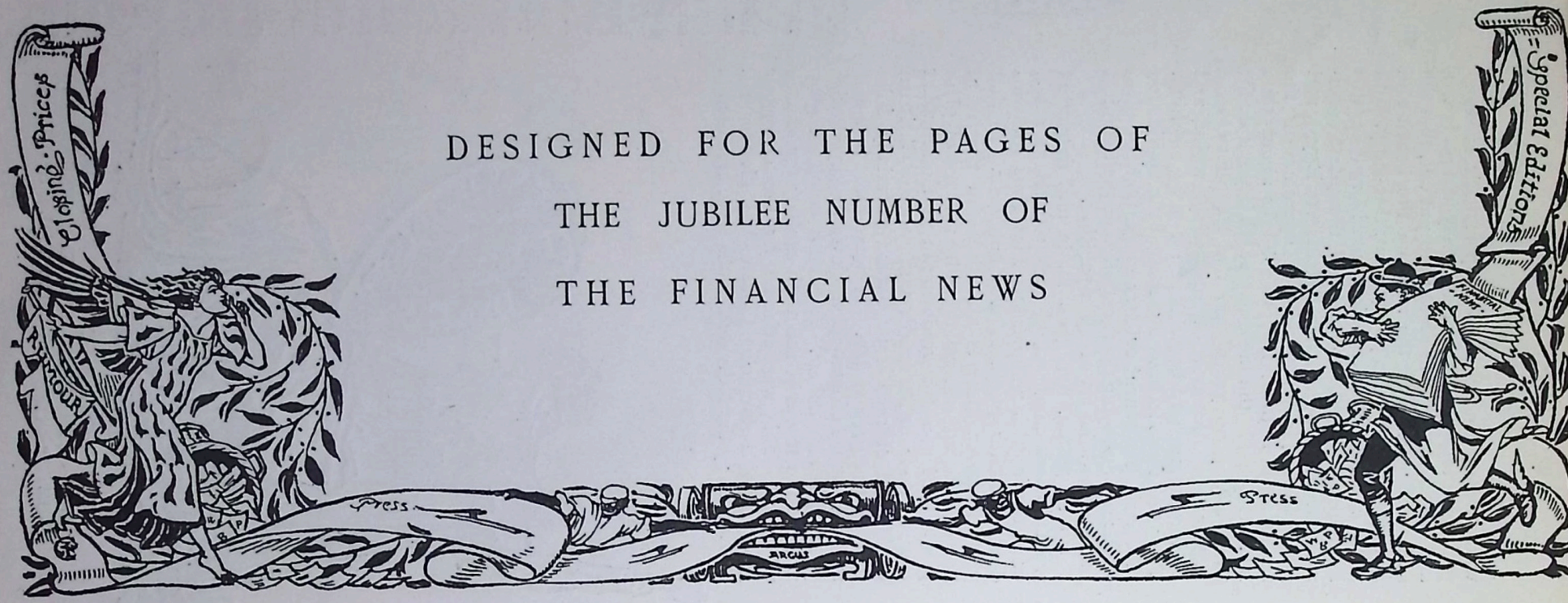

THE TRIUMPH OF LABOUR · REDUCED
FROM THE CARTOON BY WALTER CRANE

The rods were then plastered over about four inches thick with a mixture of three parts of potter's clay mixed with dry hay. A fire was kept burning in this furnace until the walls were perfectly dry. An iron plate was then fitted to the furnace, supported upon an iron base. A thick layer of dry quick-lime having been spread over the plate, the painted glass was laid on and placed in the furnace, a fire of beech-wood was kindled under the plate, and continued until the flames arose around the arch and made the glass and iron plate red hot. Then the fire was drawn and the glass left to cool. When taken out, the glass was tested to see if the colour would scratch off. If it would not, it was finished; otherwise the firing had to be repeated. The next step was to lay the pieces of glass upon the table in their proper places and join them with strips of lead. The oldest monumental buildings which have retained relics of their original glass date from the eleventh and twelfth centuries. The remains are deeply corroded with holes, the effects of the oxidisation of centuries. Up to the twelfth century—when green and purple were added—there were only four kinds of glass in use, viz., red, blue, yellow, and a greenish white.

The Venerable Bede, who was born A.D. 672, says that glass was first introduced into England A.D. 674. He, himself, was much interested in stained glass, and is said to have painted some for Hexham Monastery. Louis IX. of France decreed that only the sons of noblemen might make glass. In Scotland, James I. granted the right of manufacture to Lord George Hey for thirty-one years. In England there were many gentlemen glass-blowers.

All glass was blown up to 1673. It is said that the first casting of a large sheet of glass was due to an accident at the glass-works of St. Gobain, in France, when, through the breaking of a crucible, the molten metal ran under a flag-stone and formed a sheet of glass. Flint-glass (pure white) was first made in England in 1557; plate-glass in 1673.

In the fifteenth century glass-painting gradually took a fresh turn. Considerable progress was made in glass manufacture. In addition to window-glass coloured throughout (termed "pot-metal") "flashed glass" plates were produced, consisting of plain white glass about three-fourths of their thickness, the remaining fourth being coloured. By means of this practice of flashing, numerous tints and gradations of colour were obtained. The glass painter had also thereby a new means at hand of introducing ornamental details previously unknown in this branch of art. He could grind out the most delicate decorations in the coloured cover glass and leave patches of clear or white glass underneath. These he painted and shaded, with a brownish-black pigment made of oxide of iron, and, by the application of silver chloride, the white patches could be stained yellow.

THE LION AND DOVE WALL-PAPER FRIEZE, DESIGNED BY WALTER CRANE.

(By permission of Messrs. JEFFREY & Co.)

This second period of glass-painting was the golden age of the industry. Churches, palaces, guild-halls, and other large public buildings were embellished with historical representations, heraldic devices, and other ornamental designs in rich colourings; for various metallic oxides came into use—those of iron, copper, gold, silver, cobalt, chromium, and uranium. Kilns and furnaces of improved types were invented, and at this period began the employment of the diamond point, by which important discovery safe and accurate cutting of the glass was made possible.

The third period of glass-painting began with the seventeenth century, which also witnessed its decline and almost its extinction. Owing to the

PART OF THE FIG AND PEACOCK WALL-PAPER

DESIGNED BY WALTER CRANE

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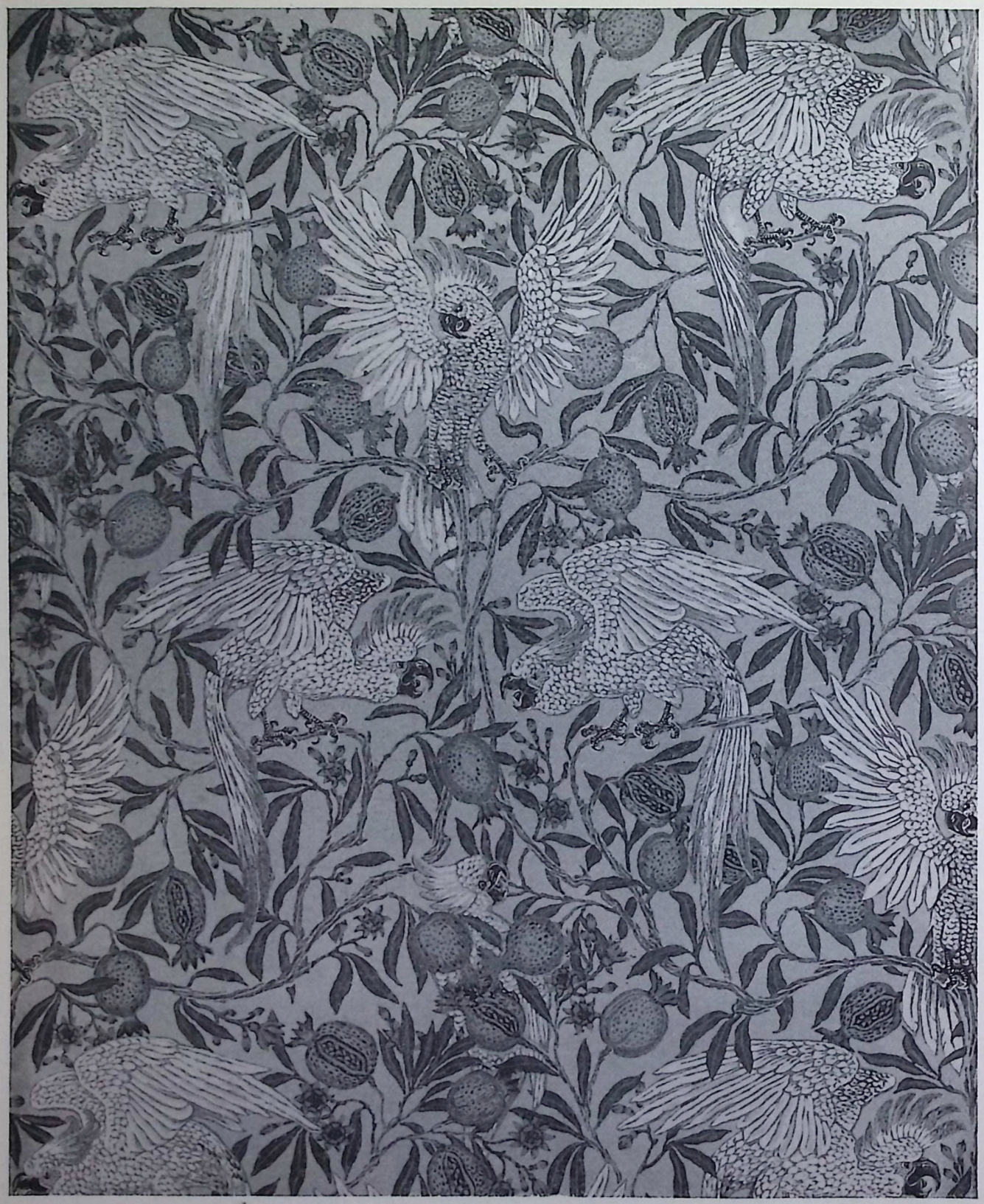


THE COCKATOO AND POMEGRANATE WALL-PAPER

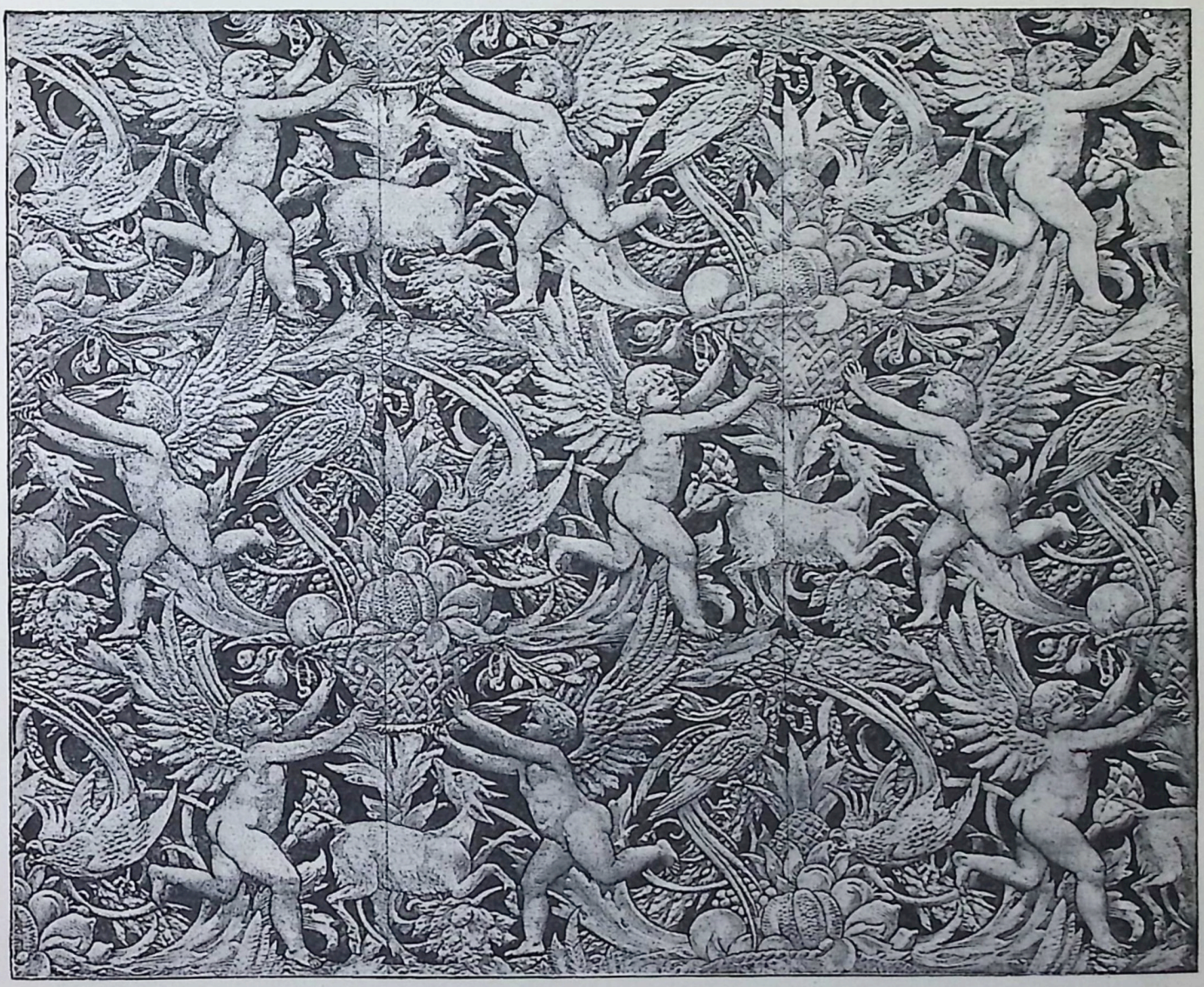
DESIGNED BY WALTER CRANE

(By permission of Messrs. JEFFREY & Co.)

wars and religious convulsions of the time, the practice of the industry ceased everywhere, in the absence of any demand, and the art itself, with its technical secrets, was almost lost. A similar state of affairs existed throughout the eighteenth century, colour and design in the glass-painting of that age being crude and destitute of taste.

The nineteenth century saw a revival, but whereas the old art of glass-painting was gradually developed into perfection from its own resources, the new industry showed a reversal of this mode by basing itself on the developed arts of porcelain and enamel painting, and transferring the technique of the former to a transparent ground, viz., the translucent surface of window glass. In other words, the glass-painting of the nineteenth century is no daughter of the older art, but an encaustic, petrified off-shoot from the art of painting in oil and water-colours applied to glass with most unsatisfactory results.

We now come to the present-day glass-staining and the general methods in practice in making stained and coloured windows. The artist who prepares the designs for stained and coloured windows should be well acquainted with pagan mythology, Christian iconography, and heraldry, as well as the historical styles of decorative art in their chronological order. Designs are generally drawn to the scale of one inch to the foot, and show the scheme and proposed colouring. The artist nowadays is rarely allowed to carry out his own scheme, regardless of cost. Usually he is required to conform it to a fixed price per square foot.



THE GOLDEN AGE WALL-PAPER, DESIGNED BY WALTER CRANE.

(By permission of Messrs. JEFFREY & Co.)

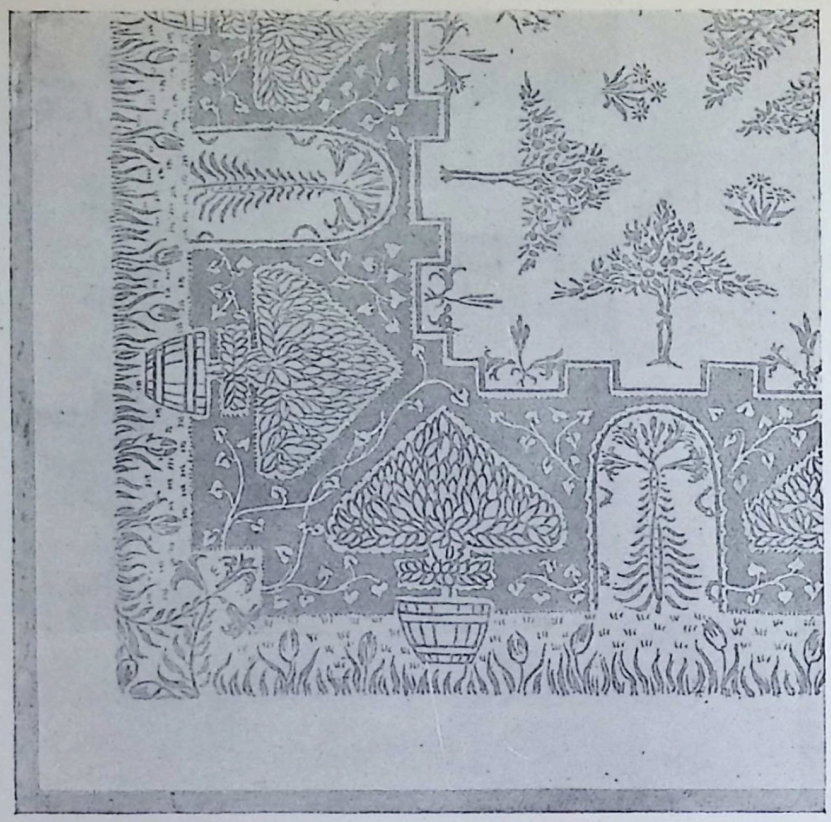
TABLE NAPERY DESIGNED BY WALTER CRANE

I.—"THE ORANGE TREE" DAMASK TABLE-CLOTH AND NAPKINS

(By permission of Messrs. HAMPTON & SONS)

II.—"THE SENSES" DAMASK TABLE-CLOTH AND NAPKINS

(By permission of Messrs. JOHN WILSON & SONS' SUCCESSORS)



The design and price having been approved, full-sized cartoons are prepared from which is copied the cut line. On this the artist marks the numbers representing various coloured glasses, or, if the price will admit of it, he selects carefully the pieces of glass and determines the exact position they are to occupy in the window by tracing in French chalk the lines to which they are to be cut. The cutter, with a diamond point, then cuts the glass to fit the various places, making a careful allowance for the lead with which the pieces will be joined together. The window, in pieces, is then passed to the painter, who carefully copies the artist's cartoon, adding such touches and effects (by tracing, etching, shading, and painting) as experience has taught him may be necessary.

The painted glass is then placed in a kiln, heated by gas to 1,200° Fahrenheit, and such is the improvement in the process of firing that what used to take twenty-four hours is now more efficiently done in two hours.

The work having been carefully examined, and sometimes retouched and refired, to secure added effects (when the price will admit of this), is handed to the glazier, who fixes the lead around the glass and solders with fine solder all the joints on both sides. The grooves of the lead are then filled in with oil cement to make the window wind and water proof. The window is then fitted in its place, and the artist receives judgment—invariably regardless of the conditions imposed upon him by his client either as to design or price.

In concluding his lecture, Mr. Booer made some striking remarks on the application of designs and their suitability for the place in which the window is erected. Many curious instances were cited of

CERAMIC DECORATIONS, BY WALTER CRANE, FOR PILKINGTON'S TILE AND POTTERY CO., LTD.

The Panel, "Taste," is one of a set of five slabs representing "The Senses," executed by the "Cloisonné" method, as is also the set of Tiles.

EXAMPLES OF GESSO WORK BY WALTER CRANE

I.—A FINGER DOOR-PLATE

II.—PANEL

(From "Ideals in Art". By permission of Messrs. George Bell & Sons)

III.—DOOR OR LOCK-PLATE

gross impropriety in old windows and strange anachronisms. Among modern instances of the former he mentioned a large window in the cathedral church of Newcastle-on-Tyne, given by or in memory of a local chemist, as containing a representation of the inside of the shop with the drugs arranged in bottles on the shelves, and the chemist, clothed in purple robes, handing bottles of medicine to poor people kneeling to receive them. The window to Robert Stephenson in Westminster Abbey has medallions illustrating some of his achievements, such as a locomotive engine, the High Level Bridge, and varied scenes in the foundry and other parts of the works, through which Robert Stephenson is moving, clothed in a flowing mantle. The lecturer also referred to the parish church of Clacton-on-Sea, where there is a window to the memory of one of the Imperial Yeomanry, who died in South Africa at the hospital at Heilbron. In striking colours, the Saviour is represented conversing with two groups of figures, among whom are a soldier in khaki, a Red Cross nurse, a man-o'-war's man, and a Zulu chief. Designs for stained-glass windows and their inscriptions should be subjected to the most critical examination, so that when placed in cathedral or church they may harmonise with the work of those who erected the building "to the glory of God."

"Leather Trades'" Exhibition.

IT is a pity that there was no attempt to make the recent exhibition by the Leather Trades at Agricultural Hall of interest to trades other than those affiliated with the boot and shoe industry. The exhibition, virtually, was confined to the latter, and advertisements should have made this clear. It is true that, incidentally, fine leathers for bookbinding were shown by a few firms like Messrs. Edward & James Richardson, of Newcastle-on-Tyne. That enterprising concern, acting on the recommendations of the Royal Society of Arts Committee, prepare their skins free of mineral acid, and they exhibited specimens of the seal, Cape goat, and coloured calf skins, which are their speciality; but the opportunity was lost of inviting exhibits from leading bookbinders, which might have shown how greatly the craft is benefiting by reforms in tanning and dyeing. An appropriate feature of the exhibition of the leather trades would have been such an instructive collection of fine leather bindings, both old and new, as was brought together at the Book-Lovers' Library a few months ago. There was plenty of vacant space in the galleries, not only for such a display, which might well have included demonstrations in bookbinding, but also for demonstrations in such kindred artistic craft work as leather incising, embossing, modelling, and staining. We can imagine the severely commercial gentlemen of the boot and shoe trade, under whose auspices the exhibition was organised, scoffing at these suggestions as being too much of the dilettante order to accord with their utilitarian purposes. But that is an objection that could hardly apply to the trades

TRANSLATION OF ENOCH.

Window in the Church of the Ark of the Covenant, Stamford Hill. Designed by WALTER CRANE and executed by J. S. SPARROW.

of the upholsterer and the mural decorator, who equally were unrepresented. The non-participation, for instance, of the great firm of Jeffrey &

Sons, whose factory is within almost a stone's throw of Agricultural Hall, seems unaccountable. Next year it is to be hoped that, unless some enlargement of the scope of the display is contemplated, the exhibition will be announced frankly as an Exhibition of the Boot and Shoe Trade.

PART OF THE DECORATION OF A PAGE FOR "THE INTERNATIONAL BIBLE." BY WALTER CRANE.

Christmas Church Decorations.

(*Concluded.*)

AT the end of our article last month containing practical hints and directions for the proper scheming and carrying out of floral decorations for Christmas, we gave illustrations showing the correct forms for the various kinds of crosses that may be employed for the great festival. All the varieties of the Greek Cross may be used, but the most beautiful and appropriate for Christmas are the Cross Patonce, Cross Fleurie, Cross Trefflée, Cross Crosslet, Cross Pommée, and Cross Potent.

The form of the Cross Patonce (Fig. 1) is the most beautiful of all the ornamental crosses, and lends itself to a great variety of floral treatments, its spreading arms presenting good fields for surface

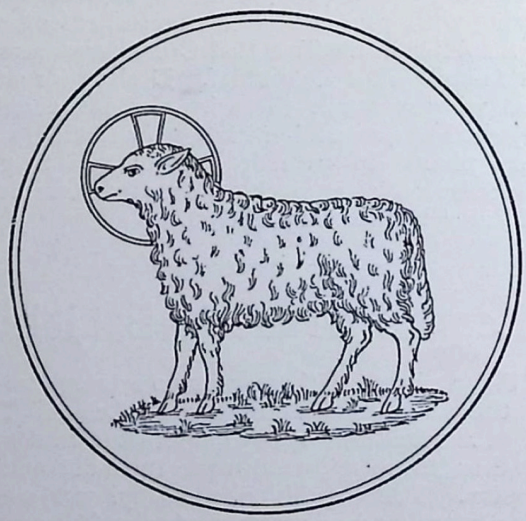


Fig. 9.

embellishment. Fig. 2 is another form of this cross, also suitable for decoration. The Cross Fleurie (Fig. 3) is the best form of all the slender-armed crosses, and admits of simple floral treatment. The Cross Trefflée (Fig. 4) is very well adapted for small designs in which its trefoiled ends may be formed of groups of three chrysanthemums or other circular flowers, its arms being covered with laurel or holly leaves. The Cross Crosslet (Fig. 5), which extends four crosses instead of purely ornamental arms, may be accepted as expressing the universality of Christianity, and, accordingly, is quite appropriate in Christmas decoration. This cross may be made of large size without looking gaunt or heavy. The Cross Pommée (Fig. 6) is not so pleasing as the preceding forms, but it may be used with good effect when of small size and carrying single circular flowers in the extremities of its arms. A larger flower may occupy its centre. The flowers may be either white or yellow. The Cross Potent (Fig. 7) is formed of four Tau Crosses, and is quite appropriate for Christmas. The Tau or Anticipatory Cross

(Fig. 8) is the only imperfect form of the symbol used in art; it has only three members, while all other crosses have four or more. This fact, however, gives it its value, and the Tau Cross may be used once or twice in a scheme of Christmas decoration, in allusion to the displacement of the Old Dispensation by the Gospel of Christ, who was born on the first Christmas morning.

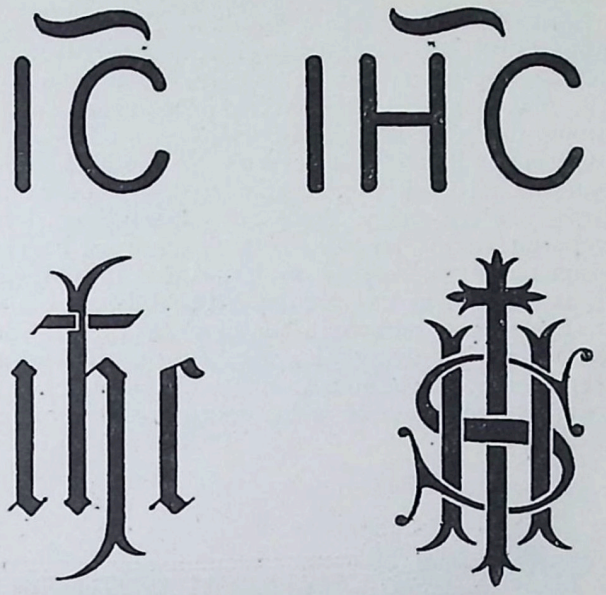


Fig. 10.

Important among our further illustrations of symbols appropriate in Christmas decorations is the Agnus Dei, or Divine Lamb. Care should be taken, however, to depict the Lamb without the usual cross and banner, for these attributes are emblems of the Resurrection. The head of the Lamb should be invested with the divine or tri-radiated nimbus. The manner in which the Lamb should be represented is indicated in Fig. 9.

All the monograms of our Lord's name are appropriate for Christmas decoration, whether used as independent ornaments or as decorations on shields, banners, or medallions. Examples were given in our previous article. The monograms most usually met with are those which are composed of the two first and last letters of the word JESUS, in Greek (ΙΗΣΟΥΣ). The first two letters, I (Iota) and H (Eta) always remain the same; but the last letter assumes three forms —S, C, and Σ, which are the three forms of the Greek Sigma. This monogram is sometimes formed of the first and last letters only. The sign of abbreviation is sometimes placed over the letters. The best forms of these monograms, both in Greek and Gothic letters, are given in Fig. 10.

The monograms of the name CHRIST are formed in a similar manner, from the first two and last letters of that name in Greek (ΧΡΙΣΤΟΣ), or, as is most usual, from the first two letters only (XP), or the first and last letters with the sign of contraction over them. The best forms of these monograms are given in Fig. 11. With all the monograms of our Lord's name, the Alpha (A) and Omega (Ω) may be grouped.

Of all the ornaments used in Christmas decorations, the Star is, of course, the most important, and should be freely introduced, either alone or in conjunction with the symbols and monograms above alluded to. A large and finely decorated star, containing on its field the Agnus Dei or the monogram of our Lord's name, should invariably occupy the most important position in the scheme of decoration. When placed over the altar, or above, or suspended within, the chancel arch, it should be associated with a large Cross Patonce or Cross Crosslet. Stars of any number of points may be adopted, although five, six, and seven points produce the most agreeable forms. It must be remembered that the interlaced triangles, which form the emblem of the Holy Trinity, present the outline of a perfect star of six points; and this emblem, either alone or surrounded by a circle—the emblem of Eternity—may be freely used on the walls of chancels or placed over chancel arches. The hexagon in the centre should contain the Agnus Dei or some sacred monogram. The single triangle interlaced with, or placed within, a circle, and three circles interlaced may be used, for the sake of variety, in an elaborate scheme.

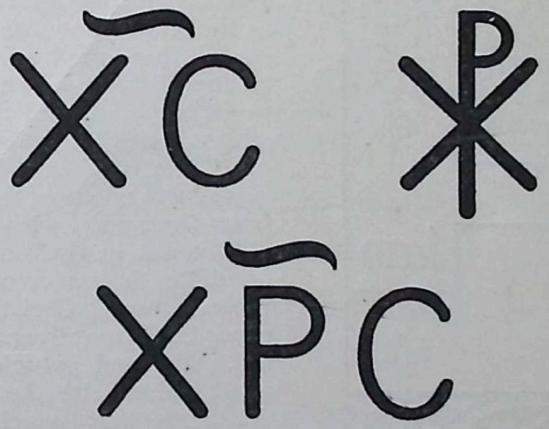


Fig. 11.

The lesser emblems appropriate for Christmas are the Three Crowns, alluding to the Adoration of the Magi; Three Vessels of Gold, the precious presents offered to the infant Saviour; the Crooks placed saltirewise, in allusion to the heavenly message given to the Shepherds; the monograms of the Virgin, M. and A. M., entwined and surrounded by celestial crowns; and a group of three Lilies, the emblems of the Virgin.

CHURCHMAN.

IN his anecdotes of painting, Richardson says: "Some years ago, a gentleman came to me to invite me to his house. 'I have,' said he, 'a picture by Rubens, and it is a rare good one. Little H—— the other day came to see it, and says it is a copy. If anyone says so again *I'll break his head*. Pray, Mr. Richardson, will you do me the favour to come and *give me your real opinion?*'"

Written Christmas Cards.

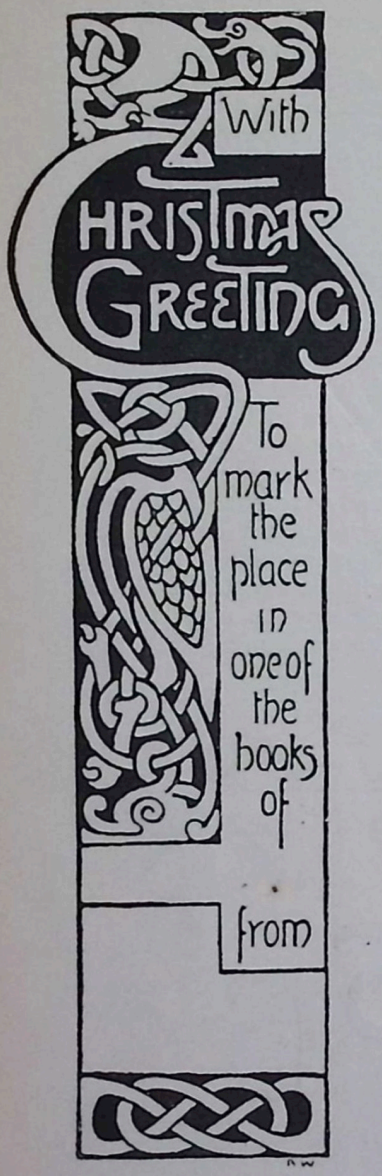


Fig. 4.

WITH the season of Christmas so close at hand, our minds very naturally turn to the subject of Christmas cards. The question, "Are Christmas cards going out?" is probably asked every year, and just as probably remains unanswered. Fashions change in Christmas cards as in everything else, and the picture post card, or the photograph of the sender, slipped into a convenient and ready-made mount, bearing on it some words of greeting, may be having its day with followers of fashion; but I think we may safely assert that just as often as the glad season comes round there will always be found those who wish to greet their friends, and who will avail themselves of Christmas cards in some form or other to express their good wishes.

It is not in the power of all to design or write their own Christmas cards, but generally speaking, the card which is most valued by the receiver is that which is either the workmanship of, or done at the special instigation of the sender; that is, cards which are the autograph work of the designer, and those which are printed. In the first instance, of course, the designer is practically without limitations.

The design may be as simple or as elaborate as circumstances and taste suggest. One can, however, scarcely do better than select some suitable words, and set them forth in an easily read script upon vellum or parchment. Illustrations 1 and 2 give examples of simple treatment of this sort.

Choice of script is, of course, a matter of taste. The plain round script, such as was used in the manuscripts of the early centuries, most naturally appeals to us from its very simplicity and clearness; but, in adopting such a style, we must remember that we debar ourselves from using the more gorgeous and elaborate capitals. If you wish to give play to your imagination and start your inscription with a capital letter, designed in the style of the fourteenth or fifteenth century, you must sacrifice the simple beauty of the early round writing to the more angular manner of the later periods.

Illustration 3 gives an example of this treatment, although it is not an extreme case, as the capital is not very elaborate, nor the writing very angular.

A few practical hints on the manufacture of "home-made" cards may be useful.

Given the fact that you wish to produce more than one card, whether similar in design or not, I strongly advise that a sheet of vellum or card be prepared that is large enough to allow of several designs being worked upon it, and that they should be separated on completion. The advantages of this are obvious when one begins to work. In the first place, if drawing pins are being employed to keep the card or vellum in place on the drawing board, it is better to have but four pin-holes, one at

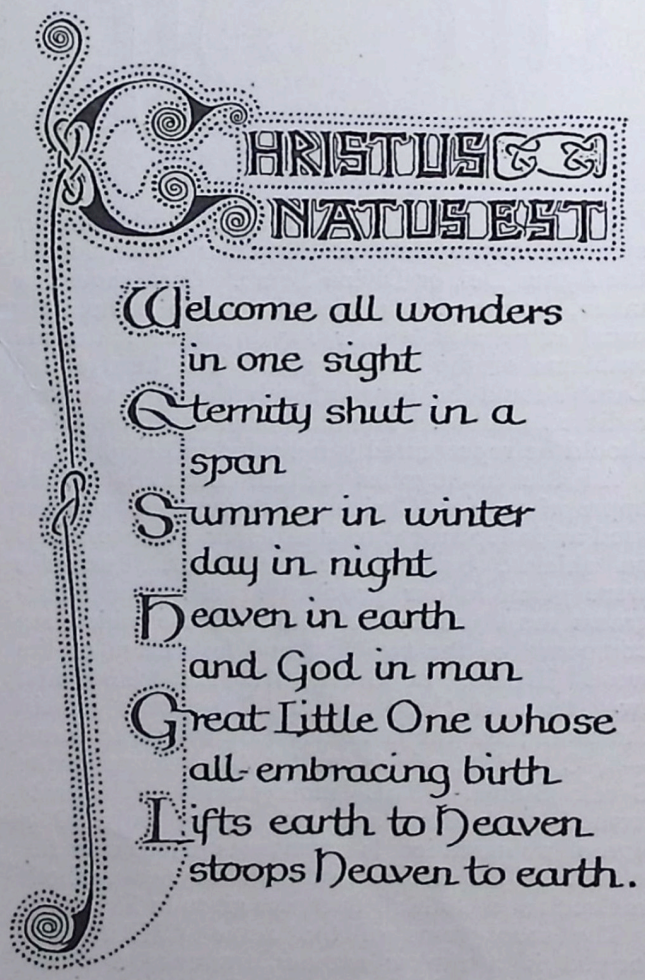


Fig. 1.

each corner of the large sheet, than a similar number at the corners of each little card. If, however, the card is held in place by strips of

tough paper pasted on to the board and on to the edges of the material, which is far the better plan, the stretching of the larger piece is a great saving of time.

Also, though the subject of margins ought always to be most carefully considered from the

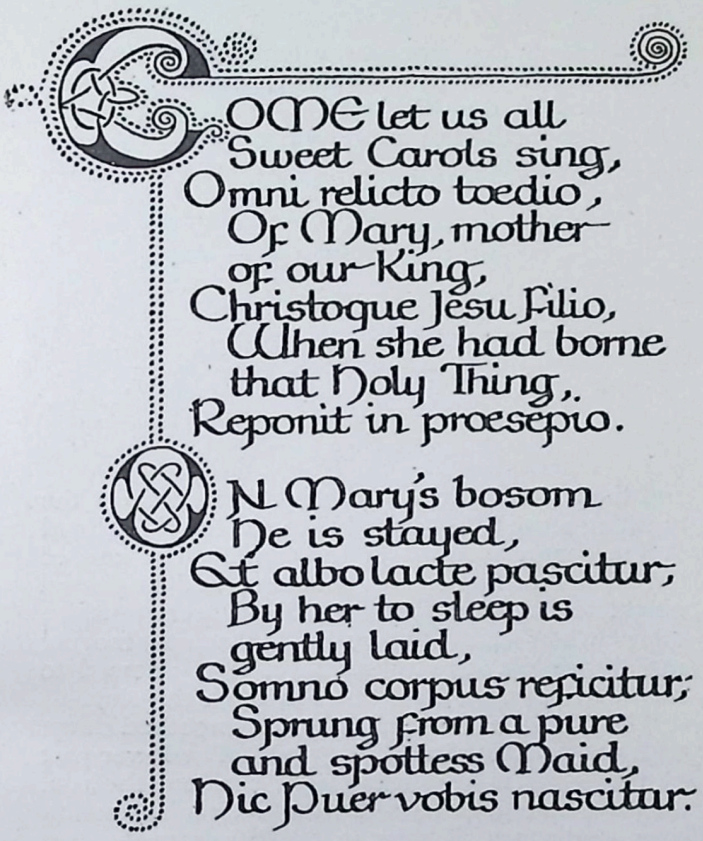


Fig. 2.

first, we are all prone to errors of judgment in this respect, and, after a design is finished, it too often happens that a very slight difference, more or less, in the width of the margins will greatly help the effect, and if our design is on a portion of a large sheet we can better afford to give ourselves a little licence in this matter.

In choosing card, Bristol board may be used, but O.W. paper, which can be purchased ready mounted on card, has a nicer surface for either pen or brush.

However much we may desire to provide our friends with autograph cards, limitations of time too often prevent, and it is then that we have to come to consider how we can call the printer to our aid; considering also probably what that aid will cost us.

The cost of a line block will be about 2s. 6d. upwards, according to size, but a small block could be obtained, with fifty cards printed in one colour, for about half a guinea. It is not at all necessary to print in more than one colour; for, if plenty of space is left in the design, this can be tinted by hand, and the capitals illuminated at the taste of the sender. In this way it is possible to send many differently treated cards, using only the one design. It is worth noting that the Direct Photo Engraving Company, of 38, Farringdon Street, London, make a speciality of private work of this kind.

It may be helpful to mention a plan which was adopted by some art students a few years back. Wishing to present their friends with cards of their own design, they had their cards printed, and set to work to sell sufficient to pay expenses. As the cost of printing the extra copies was small compared with the first outlay connected with the reproduction of the design, they were able to do this and to make some small profit. With regard to printed cards, it is a good plan to leave spaces for names to be inserted, as in Illustration 4, and the effect is greatly improved if these are done in the same colour and style of lettering as the rest of the design. Stencilling can be used with great effect for greeting cards. A small stencil for this purpose will not be subjected to much wear, and a thinner substance than usual can be used for the

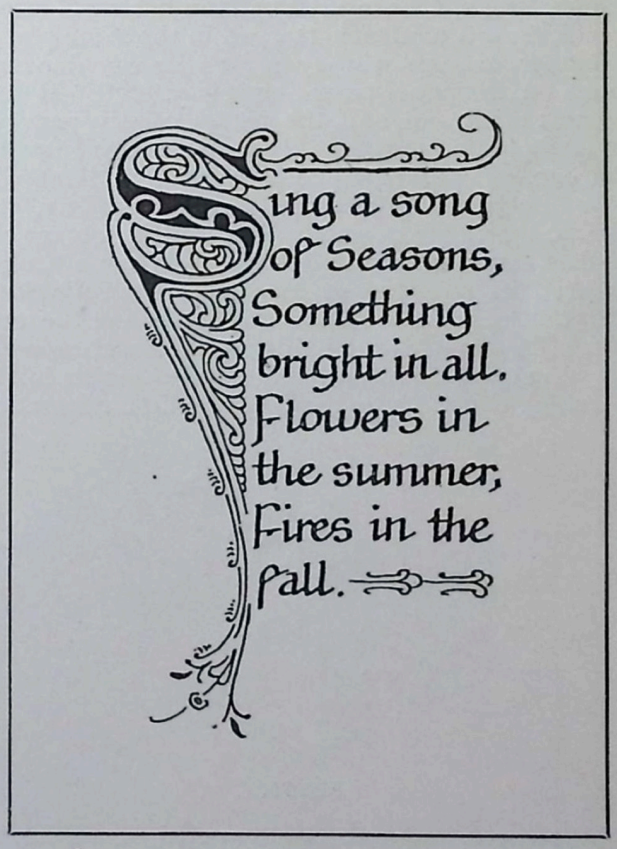


Fig. 3.

plate. Oil paper (commonly used for copying letters) does admirably, and can be easily cut with a sharp knife. Either ordinary water colours can be used or the various coloured inks sold by all artists' material dealers.

BEATRICE A. WALDRAM.

Bookbinding.

A NEW SERIES OF PRACTICAL ARTICLES ON BINDING, TOOLING, AND DESIGNING.

By F. SANGORSKI, Teacher at the Northampton Institute, and
G. SUTCLIFFE, Teacher at the Camberwell School of Arts and Crafts.

XVI.—Crushing the Grain of the Leather.

BEFORE the tooling is begun the book should be opened throughout. Lay it on its back, letting the cover fall, then open it carefully with the two hands near the beginning and end, taking about one section at a time, and press the leaves back towards the covers ; then open the book again, about a section each side nearer the centre, and repeat this until the centre is reached. The leaves must be pressed very slightly at first, and the process repeated again, more pressure being put on the leaves until the book opens right to the back.

The first opening of a book after it is bound requires great care, for if it is forced open suddenly the backing will be injured and the book will afterwards show a tendency to open in the same place. Whether a book will open well or not depends much on the paper on which it is printed. If this is extra thick and stiff, the leaves cannot possibly be made to lie flat when it is open. Before opening, the cap, of course, has to be removed. It should now be replaced after a note has been made of the title, author, date of publication, and any other particulars required for the lettering. When a book is covered in morocco, or any other coarse-grained leather, the grain should be crushed before the tooling. This enables the binder to take a clearer impression of the pattern, and its also assists in the polishing of the leather. If only a little decoration

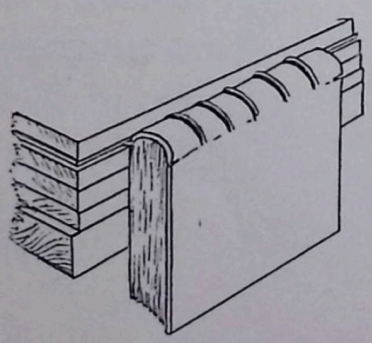


Fig. 74.

on the cover, and a not highly polished surface, be desired, the grain may be left uncrushed. Directions for crushing the leather may now be given.

Slightly damp the leather on the cover, place a pressing plate on the outside, and several thicknesses of blotting paper on the inside of the cover, and place the volume in the standing press. Then screw down tightly and let the book remain there for about five minutes (Fig. 74). The other cover is treated in the same manner. Each side must be crushed separately ; because after a book is covered, it must not be heavily pressed, otherwise the leather would be forced off the back.

Another method of crushing the grain is by using a steel roller (Fig. 75A). The leather is damped,

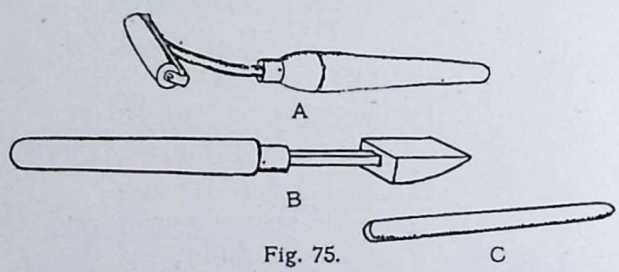


Fig. 75.

and the roller, having been slightly heated on the finishing stove (Fig. 76), is held with the right hand at the commencement of the handle, the end of the handle resting on the shoulder, and is passed quickly over the surface. Particular care must be taken when using the roller to keep it moving rapidly while on the leather, for if it is allowed to rest it will cause a black mark through singeing.

The grain on the back may be smoothed down with the polishing iron (Fig. 75B). The lower part of the handle is held in the right hand and the iron, slightly heated, is passed with a circular motion over the leather. Owing to the bands projecting, only half of each panel can be polished ; the book is then reversed and the remainder is polished. The leather cannot be damped when the iron is being used. Care must be taken not to let the iron slip off the rounded surface of the back on to the sides. Very little heat is required when using either the polishing or the rolling irons. They may be cooled on a wet piece of cotton wool placed in a flat tin or saucer ; they should be used when they just cease to hiss on the wool. If they are used too hot they will blacken the leather.

The surfaces of the irons should be kept well polished with fine French emery paper.

XVII.—Tooling Insides of the Cover.

THE inside margin of leather should be tooled first, for then there will be no danger of damaging the outside decoration when tooling the inside. Fig. 77 gives the pattern we intend tooling on the inside. A simple arrangement of lines such as this can be tooled without a working pattern, but for anything more elaborate a pattern would have to be made.

Lay the book upon the rolling block with a board open (see Fig. 69 and description on page 268,

Vol. III.), and, with the dividers, mark the lines required in the pattern, guiding the dividers by the edge of the board. Care must be taken that the points of the instrument are not sharp enough to cut the leather. These lines should then be marked in more strongly with a folder, guided by a straightedge. A folder of the shape given in Fig. 75c is a useful one for marking lines.

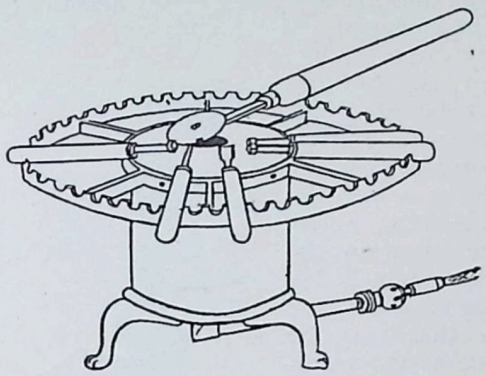


Fig. 76.

The lines ending in the three dots in the corners should be marked in right to the corner, and the dot tool heated and then cooled down on the wet cotton wool until it just stops hissing. It is important to get just the right degree of heat; for if the tool is too hot it will burn the leather, and if too cool it will not mark sufficiently. Then, holding the handle firmly in the right hand with the thumb on top (Fig. 78), impress the tool in the position it should go, guiding it into its place with the thumb nail of the left hand, which should be resting upon the cover. The corner dot should be impressed first, and then one should be placed on either side of it, forming a triangle. Very little pressure is required for such a small tool as this, and, if it be used quickly, several impressions may be made without reheating it.

The inside of the other cover is treated in the same manner. A piece of cotton wool is then dipped in vinegar, and the leather margin on both sides is washed with this, and then left to dry, the book standing with both boards extended so that the damp margins do not come in contact with the book. As the washing is likely to take out some of the impression of the pattern, one must be sure that it is strongly marked in the first instance. When dry, the pattern is painted with glaire.

Glaire is made by beating up the white of egg and adding a little vinegar—one part of vinegar to three parts of egg is a good proportion. It should be left to stand for a day or two before it is used. With the vinegar in, it will keep for some time, but it gradually gets too thick to use. It is in best condition about a week after it has been made. If it be used before then, the pattern should be painted with it twice, the second coating being put on after the first has dried. One coating of glaire which is a week old will be sufficient. Some experience is required to determine just how much to use. If put on too freely, it will dry in a thick crust on the surface of the leather, and cause the gold to chip off. At the same time care must be taken that every part of the pattern is well covered, for it is the glaire that is to make the gold adhere. It must be painted carefully on to the pattern, if it goes beyond, it is liable to show dirty.

Before the glairing, the leather was washed with vinegar. This is done for two reasons, viz.—to clean it, and also to impart sufficient moisture to prevent the glaire from becoming a dry crust on the surface of the leather. It must not be implied that the tooling takes place while the leather is at all wet. Both before glairing and before tooling the leather must ostensibly be dry; but, if the leather is thoroughly washed, the surface will dry and yet retain sufficient moisture for some hours. When a book is just covered, the leather will retain a certain amount of moisture for several days, for this reason the tooling is easier and more likely to be successful if done shortly after covering. If a book has been covered a long time, it is advisable to damp the leather thoroughly, not merely washing over the surface, for then the surface dries, leaving the leather as dry as before. The damp must penetrate right into the leather. Vinegar is usually used instead of water, because it takes longer to dry. It is possible to dispense with this moisture in the leather when tooling, but then the tooling would have to take place immediately the glaire is just dry enough, or else it would have to be almost burnt on. In the first case very little could be glaired at a time, for the glaire would dry very rapidly with no moisture underneath, and in the second case gold that is made to stick, more from reliance upon the heat of the tool than upon the adhesive quality of the glaire, has a dull appearance, and is always liable to chip off. For successful tooling, the glaire must not be allowed to get dry enough to cake on the surface. If there is any tendency for it to do so, it had better be washed off and the glairing done again. Glaire that is too dry always whitens and loses its lustre. In proper condition for tooling, it should be dry on the surface and look clean and bright. It must not be put on until the vinegar has dried; otherwise it will penetrate the leather and be of little service, as it is only of use when on the surface.

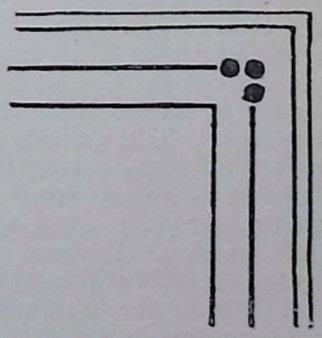


Fig. 77.

Leather, of course, varies in quality and texture, and the preparation for gilding varies accordingly. Some skins are very porous and others scarcely so at all. A porous leather has to be filled up before glairing; otherwise the glaire will sink in. Rarely is a Levant morocco porous enough to require filling. Niger morocco is sometimes, and this leather is often considerably flawed and marked. A little ordinary paste mixed with the vinegar, in the washing,

will fill up the pores and also help to hide these defects. Sealskin, pigskin, sheepskin, and cheap goatskin are all slightly porous, and need paste-washing. Calfskin is very porous, and requires a deal of preparation before the gilding can take place. Water is usually used instead of vinegar, and more paste is required than for the other leathers. When this is dry two coatings of size are applied: either Young's patent size or a vellum size may be used.

To make vellum size, odd scraps of vellum are cut up, put into a pot, and stewed in about four times their bulk of water. Size must be applied warm, and each coating must be allowed to dry. Then the leather is glaired twice.

All this preparation is rather apt to make the leather lose its flexibility. If much paste has to be used, it is likely to get hard, and make the surface of the leather brittle. This would be principally noticeable on the back, where the leather has to move with the sections, and when the book is opened and shut it would be likely to crack. For this reason it is not advisable to use a very porous leather, unless no gold tooling is required on it. A porous leather can be easily detected. When it is first washed, the vinegar will at once penetrate and darken it. When the glaire on the inside margins is sufficiently dry—and it is very important that it should be dry enough, for even a slightly warm tool will burn on a damp leather—the book may be replaced on the rolling block, and the fillet and dot tool placed on the finishing stove to heat. The fillet should always be placed on the stove resting on its arm, so that the edge does not come in contact with the stove; otherwise the edge is likely to be damaged.

The gold leaf may now be cut into strips wide enough to cover the pattern. The inexperienced student had better cut them in halves, as they will thus be easier to apply. The process of cutting up gold leaf was described in Chapter X. (Vol. III., page 172).

A little vaseline is now put on a small piece of cotton wool, and most of it is then rubbed out on paper or on the back of the hand. This is called a grease cotton. A larger piece of cotton wool is also required. This should be formed into a flat pad by compressing it in the hand and pressing it against a flat surface. This is called a laying-on cotton. A slight amount of greasiness should be imparted to it by dabbing it against the back of the hand or a greasy paper. It should only be just greasy enough to pick up the gold leaf from the gold cushion. If there is too much grease on the cotton the gold will not be easily released.

A little of the leather is then greased with the grease cotton and a strip of gold is lightly picked up on the laying-on cotton and pressed over the pattern. If this breaks in the impression, as it is likely to do, another layer will have to be put on. When putting a second layer on, breathe lightly upon the first, and then the two will adhere.

By shading the pattern with the hand, any breaks in the gold may easily be detected. If these are just small breaks, small pieces of gold may be cut up and applied. The gold must be put on quickly after the leather is greased; otherwise the grease will evaporate, or sink into the leather, and there will not be sufficient to keep the gold down. For this reason only a little of the pattern should be greased at a time, unless the worker is very quick in applying the gold. The latter should be pressed firmly into the pattern. Much depends upon the laying on, for unless this is nicely done, a clear view of the pattern will not be obtained. The grease is put on the leather to keep the gold down while the pattern is being tooled. Vaseline answers the purpose very well, but there are various other greases that may be used, such as cocoa-nut oil, olive oil, or lard.

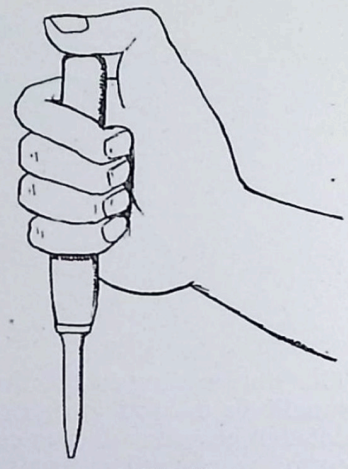


Fig. 78.

The laying-on cotton should be formed into a firm, flat pad, and the gold should be picked up slightly overlapping this, so that its position can be seen, and it can then easily be laid down in the desired place. The gold should be laid on the pattern all round, and the fillet then cooled down until it just stops hissing.

With the fore edge of the book towards the worker, the line nearest the left hand should be run first. Holding the handle of the fillet low down in the right hand, with the top of the handle resting on the right shoulder, guide the fillet into its place at the commencement of this line with the left hand thumb nail. Then, putting a firm pressure on the fillet, run it along the line, stopping about half an inch from the corner. Then lift the fillet, and, with the left hand thumb nail, adjust it so that the point can be put down on the line to finish it in the place required (Fig. 79). When finishing a line, the fillet must be rather held back, for it is apt to go too far forward and dig the point in. The other three lines should be run in the same manner; the book is then turned round, and the lines on the fore-edge margin are put in. Here the starting point in the fillet has to be used. With the left hand thumb nail adjust the fillet so that the point will drop down just at the commencement of the line. When the remaining lines have been run, the dots can be put in, the heat and pressure required being the same as used when stamping them in previously. When running lines, the line nearest the edge should be put in first, and this should be put in with the edge on the left hand side so that a view of the edge can be had for guidance. By doing this there is less chance of the line not being parallel with the edge. Then the next line should be run, and a

view of the first line is obtained, and so on. For the lines to be run straight, the wheel should be kept as upright as possible. The surface of this and all other finishing tools should be clean and bright before they are used for gold tooling, otherwise clean, bright tooling cannot result. They can be cleaned on leather, or a piece of well-worn fine French emery paper.

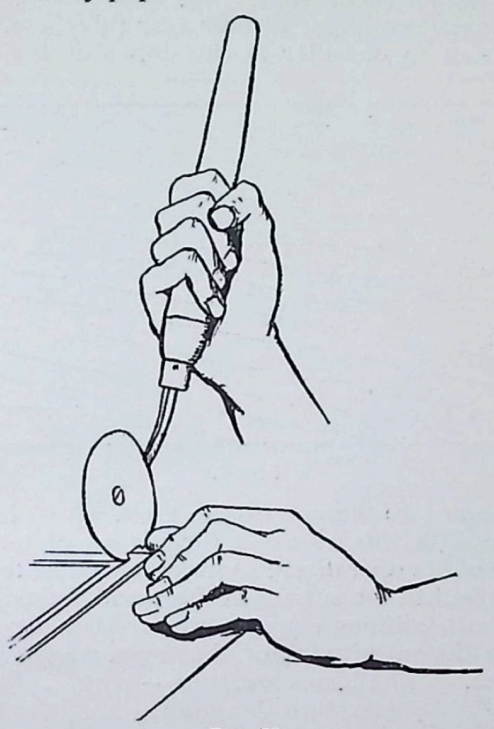


Fig. 79.

When you are running lines, the book should be turned round until the best view of the line is obtained. This can usually be seen best when it is slightly shaded from the light. In tooling, the importance of guiding the tool into its place with the left thumb nail cannot be overestimated. To be of service the nail should be placed quite low down near the point of the tool. This steadies the tool, and enables it to be replaced in the impression without difficulty. Unless the nail is rather long, it will be found a painful operation.

(*To be continued.*)

You cannot do better than draw, paint or model hands if you desire to perfect yourself in serious study. It is an old saw, that the man who can get the character of a hand can get that of a face and figure. All the old masters were strong on hands. Holbein and Van Dyck painted them with the same loving care they lavished on their faces. Van Dyck in particular was always careful to make the most of his sitter's hands. He arranged them in front, and worked them very tenderly. He overworked them often, indeed, in many of his pictures you find them out of character. Holbein, on the contrary, almost invariably made them a potential part of his portraits. So did Franz Hals. Begin the study of the hand from a cast, then use your own as models, in the mirror.

Hints on Sketching.

By Alfred East, A.R.A.

At the distribution of awards for the Gilbert-Garret Competition (reported on another page), Mr. Alfred East, A.R.A., made some valuable remarks concerning limitations and motive sketching with special reference to landscapes. Courage, quickness of observation, and the use of the receptive faculty were the things to cultivate, he said, to make it possible to catch the *transient* effects of nature, for which a sketch is the ideal medium. A sketch should be the record of some fleeting effect of nature, and nothing more. There could be no excuse for sketching immovable objects; these, he urged, were drawn to death. Colour particularly should be aimed at, as form undergoes no change. The student should accommodate himself to the conditions of the atmosphere. On dull days, let him paint in the manner of Corot; for breezy effects Constable should be his model. To sketch the same object under varying conditions was a valuable method to adopt in working from nature. Sketching was only a means to an end, and, to gain a true effect, serious studies of trees and other details of the landscape were essential. The conscientious and the imaginative feelings were continually in opposition.

For instance, knowing trees to be green, our tendency is always to paint them green, whereas under varying conditions they assume different tints. Sketching should be done as an aid to memory, as it was in the work of Turner. Let the student plunge in and not be afraid to risk a mistake. Mr. East said he could admire the work of the painter who made a glaring error, but he could not tolerate that of the man who made a small one.

In reply to a vote of thanks to the adjudicators of the awards (Mr. East, Mr. Solomon, and Mr. Derwent Wood), proposed by Mr. Frank P. Brown (South Kensington), Mr. East spoke of the high standard of excellence shown in the work exhibited. He considered that it was far ahead of anything he had seen during his recent travels abroad. Turning to the successful students of the South Kensington Sketching Club, he added: "Especially to you as representatives of the school to whom the Award of Honour has been made, I make these remarks, and in no flattering mood either."

Some modern Sang-de-bœuf specimens of pottery, by Mr. Bernard Moore, of the Longton factory, now to be seen at the Victoria and Albert Museum, are of remarkable beauty, both in their rich ruby red and depth of glaze. Since the costly Haviland experiments in this direction at Limoges, about ten years ago, which at first promised well but ended in failure, we have seen nothing that has come so near to the famous old Chinese colour as these interesting pieces from Staffordshire.

Practical Talks about Wood-carving.

BY HERBERT TURNER.

I.—The Grain of the Wood.

THESE notes and diagrams are intended to help, not only the beginner, but also the more advanced student, to understand the difficult problem of the grain of wood. Incidentally they should also be of assistance to workers in wood other than carvers who have failed to perceive why, in many cases, their work has been somewhat of a failure.

The grain in wood is the result of the fibres growing in one direction, causing the wood to be comparatively strong in one direction—the length, and comparatively weak in the other direction—the width. In cutting boards from the tree they are generally sawn with their edges parallel—more or less—to the direction of the fibres, as in Fig. 1. But sometimes the board edges lie in relation to the fibres, as in Fig. 2.

So far we have considered the question in reference to the *surface* only. But there is yet the *depth* to consider; and it is in dealing with this that most of the mistakes concerning wrong cutting

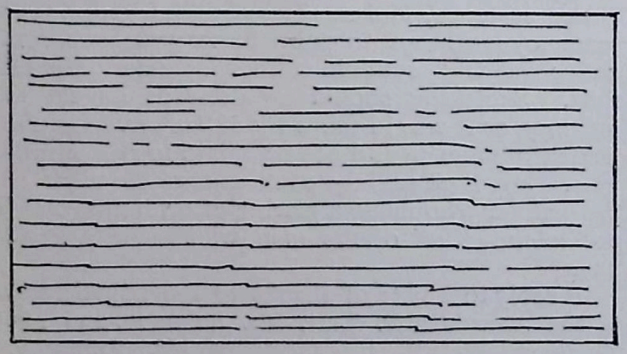


Fig. 1.

are made. Fig. 3 shows how the grain may lie with reference to depth, as well as width and length.

Let us, first of all, deal with the surface of the work. Fig. 4 shows an ordinary panel upon which our experiments are to be made. It is evident that we can cut—

(1) With the grain,
(2) Across the grain,

and there are between these extremes many varying degrees of both. Thus the line A B represents a cut "with the grain," and the line C D represents a cut "across the grain"; whilst the line E F shows a cut which may be termed either "obliquely with the grain" or "obliquely across the grain," because it apparently lies midway between the two. Please take notice of the use of the word "across," with reference to what will be remarked when dealing with the depth of the wood. In dealing with surface work, these terms will only be applied to a tool such as a veiner or fluter, not cutting to any great depth; and to such a process as "setting in" in higher relief work.

We need not linger further over this stage. The next thing to consider is the depth of the wood

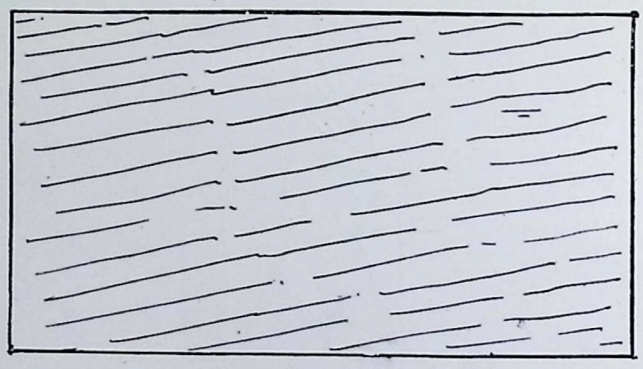


Fig. 2.

with regard to the cut of the tools. And in connection with this we use a further set of terms to describe the operations, somewhat similar to those we applied to the surface of the wood, but with one important, although apparently trivial, alteration. This is the substitution of the word "against" for "across." The terms are, then—

(1) With the grain,
(2) Against the grain.

It may be remarked, too, that the term "with the grain" differs in meaning somewhat, when applied to the *depth* of the wood, to what it does when applied to its *surface*.

To help to understand how this can be, let us take a plain board, as in Fig. 5, and make a few cuts on it with the V tool. Let us take a cut, in the first place, obliquely across the grain, as in A B, Fig. 5. If we now inspect the sides of the cut, which has sunk into the depth of the panel, we shall find something that should make us think; it is, that

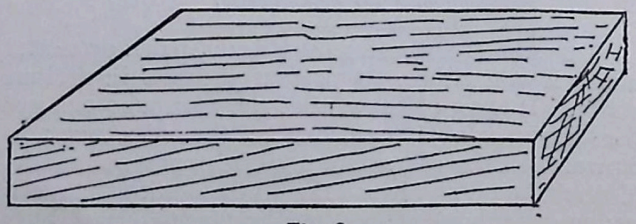


Fig. 3.

whilst one side of the V cut is smooth and shiny, the other side of the cut is rough and ragged; that is, of course, comparatively speaking. Why, then, is this?

It is, really, because one side of the V tool, in making the cut, has been cutting "with the grain," having reference to its *depth*; and it is that side of the tool that has made the smooth and shiny sur-

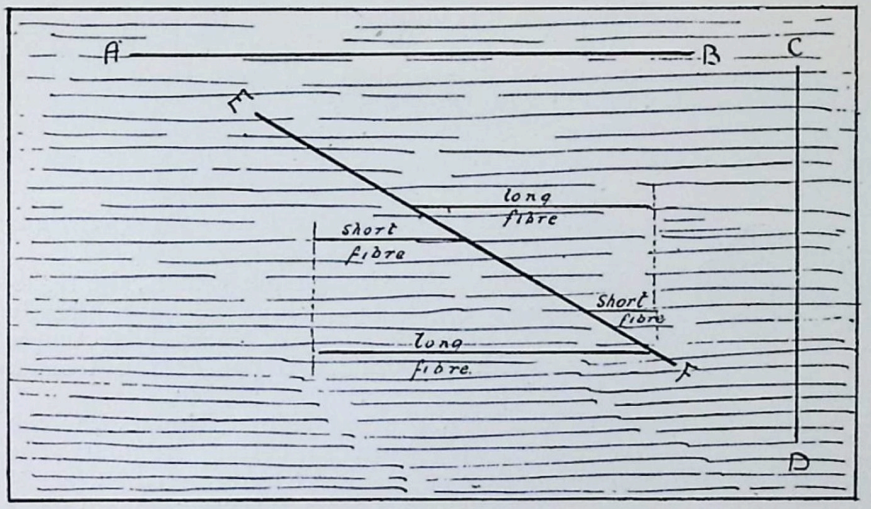
face that is so cutting "with the grain." On the other hand, that side of the V tool which has made the rough and ragged surface has been cutting "against the grain," again referring to the *depth* of the cut.

All this is still more evident when we have a design that is in relief, or that has any depth to it at all. Thus in rounding the simple scroll, shown

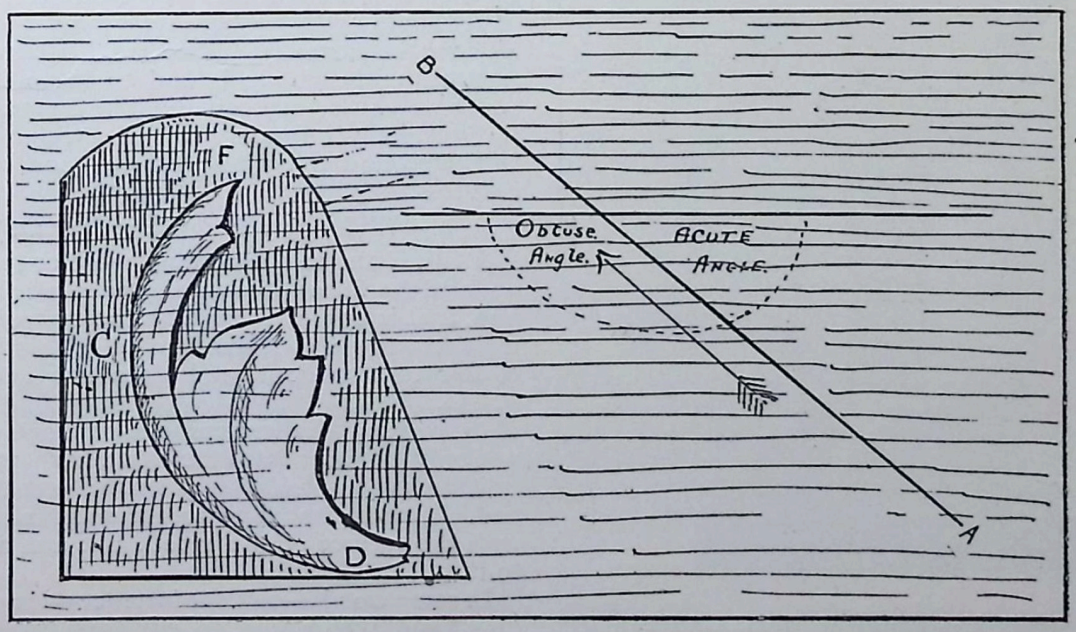
There are at least four methods of determining the question we have before us. The first and most obvious way is—

1.—*By experiment.*

Thus we could take a flat tool and cut with it in both directions to see in which way it should be used to cut "with the grain," and so leave a smooth and shiny surface. But it is evident that



Figs. 4 and 5
ILLUSTRATING CARVING WOOD
"WITH," "ACROSS," AND
"AGAINST" THE GRAIN



in Fig. 5, we have a simple problem set us as to which way we should cut in order to be cutting "with the grain." Should we cut from C to D or from D to C? The answer is, "From D to C." It will, of course, be readily seen that we should always, if at all possible, cut "with the grain," because of the reason already given, viz., that in doing so the surface of the cut is left smooth and shiny.

we cannot always rely upon experiment, because, in the case of a sharp-pointed element lying directly across the grain, as at F, Fig. 5, the result of the first cut made might easily be the breaking off of the point of the element. Thus we must find out some guide that will enable us to apply the tool, at its first application, in the right direction. One such guide we can find in considering—

2.—*The angle made by the tool with the grain of the wood.*

Let us refer to Fig. 5, and consider the cut of the V tool A B, the direction of the cut being from A to B, as shown by the arrow. It will be found that one side—in this case the right-hand side—is smooth and shiny; thus indicating that the right-hand side of the V tool has been cutting "with the grain." Similarly the left-hand side of the tool, it will be found, has made a somewhat rough and

WOODEN CROSS, DESIGNED AND CARVED BY HILDA A. WEST (TAUNTON).

ragged cut, thus showing that the side of the tool has been cutting "against the grain."

In closely examining these cuts, it will be found that they always bear a definite relationship to the grain of the wood; and if we can find what this relationship is, we have found the key to the solution of the question asked a few paragraphs before.

The right side of the cut A B made by the V tool makes with the grain of the wood an *acute angle.*

The left side of the cut, on the other hand, makes with the fibres an *obtuse angle.* These are invariable, and thus we get one certain rule that is applicable to all cases, and assists us to determine how to apply the tool to the work, so as always to be cutting "with the grain." This rule is as follows: When the tool makes with the fibres an acute angle, then it is cutting "with the grain," and when the tool makes with the fibres an obtuse angle, then it is cutting "against the grain."

Applying this rule to the scroll in Fig. 5, we thus find that we must cut from D to C to be cutting "with the grain" in rounding the edge of the scroll. It must always be understood that the indicative angle lies always upon the design, and is not that which lies upon the ground.

3.—*The relative length of the fibres, with reference to the direction of the cut of the tool.*

Thus in Fig. 4 in cutting from F to E, the right-hand side of the V tool, which we have already seen is the one which, in this particular cut, is cutting "with the grain," is proceeding from a *shorter* to a *longer* fibre.

And, similarly, the left side of the tool, which we have already seen is cutting "against the grain," because of the rough and ragged surface it makes, is proceeding from a *longer* to a *shorter* fibre. This is shown in the diagram in both cases by means of a slight thickening of the fibres.

It should again be borne in mind that we consider those fibres only that are contained in that part of the design we intend to leave in, and not those fibres that are contained in the groundwork.

There is yet another way in which it can be indicated how to cut to produce good, clean, crisp surfaces.

4.—*With reference to the ends of the fibres.*

Thus, if the tool is cutting, more or less, *into* the ends of the fibres, it is cutting "against the grain"; and, if it is cutting *away from* the ends of the fibres, it is cutting "with the grain." This is an easy matter to work out, and does not need further notice.

In cutting the ground out, students will have noticed that sometimes the wood has a tendency to split down into its depth when being cut from one end. This is because the fibres do not lie parallel with the surface of the wood, but are at an angle to it.

In some woods—oak, for instance—it can easily be found out which end to cut from to be cutting "with the grain," by noticing the inclination of the "medullary rays"; those hairlike streaks which, when cut obliquely and nearly parallel, show those beautiful markings known as "silver grain."

If any reader of the Magazine has serious difficulty with the grain of wood, I shall be glad to advise him about it, and if the problem is of general interest, treat of it in these columns.

Our next talk will be about the Sharpening of Carving Tools. HERBERT TURNER.

MEDIUMS IN OIL PAINTING.

THERE have always been differences of opinion in regard to the use of mediums in oil painting. Many painters hold that without the lavish use of some suitable vehicle there is no chance of doing satisfactory work; others are doubtful on the subject, and waver between deficiency and excess, in the manner characteristic of indecision; while others again—the purists—hold that the use of any medium whatever is an absolutely heretical practice. As usual, the real and reasonable course lies somewhere between the extremes. No doubt very many work of art have been destroyed by the too free use of liquefying medium; but, on the other hand, there are many subjects suitable for representation on canvas which could not be rendered properly with paints of the ordinary consistency, and there are certain phases of artistic inspiration which could not find expression through the tedious pigment-spreading process necessary to the covering of a canvas with colours used just as they have come from the tubes. The balance of advantage is certainly in favour of the use of some medium. The need for a diluent is obvious enough; the point to settle is which is the most suitable for all kinds of work.

CARVED PANEL. BY H. LILIAN OHLSON.

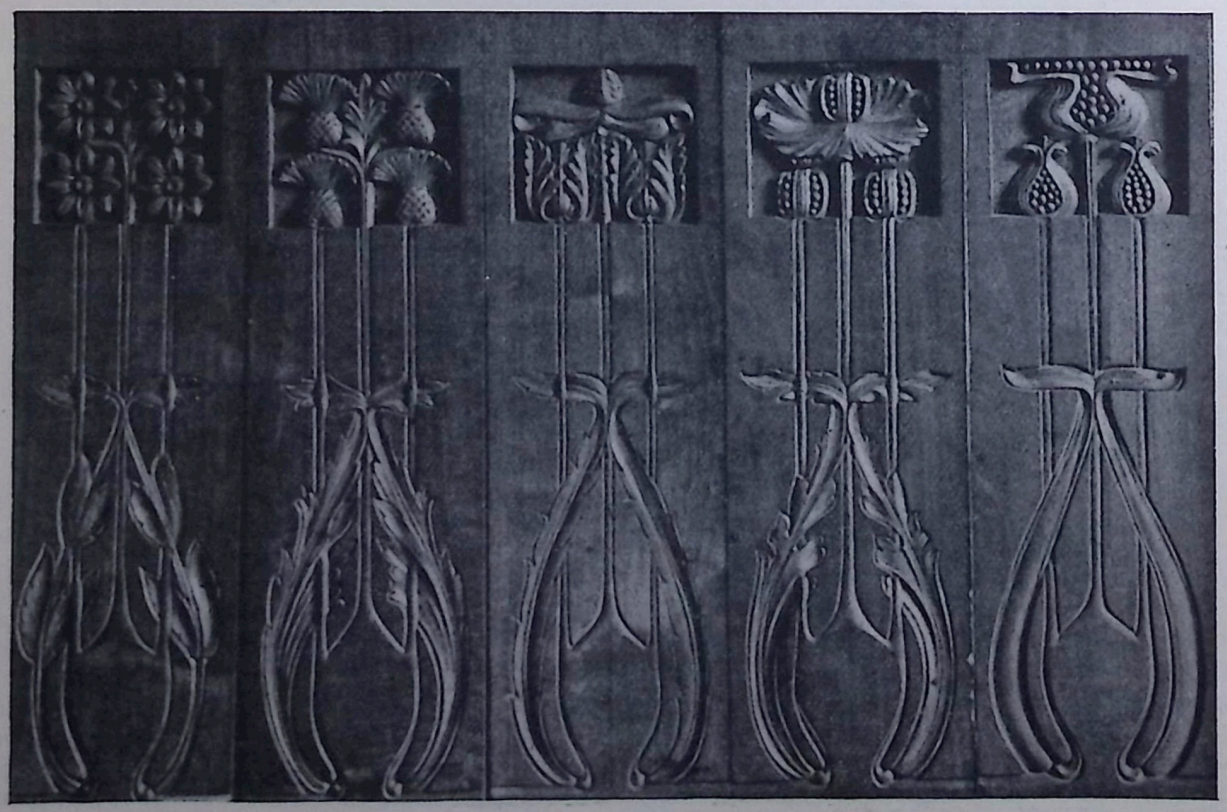
Shown at the recent Exhibition of Work by Pupils of Clapton and Stamford Hill School of Art. First Prize and Silver Medal at Carpenters' Company's Exhibition

CARVED TABOURET
OR COFFEE STAND

DESIGNED BY
W· AND A· DANIELL
(LIVERPOOL)

AND CARVED BY
THEIR PUPILS

THE UNSHOWN
PANELS ARE
GIVEN BELOW



Metal Work.

By HERBERT J. MARYON, late Director of the Keswick School of Industrial Arts.

I.—Raising.—A Chalice Cup.

LONG before the days when Moses singled out Bezaleel, the son of Uri, to be craftsman-in-chief to the hosts of Israel, and to devise curious works in gold, in silver, and in brass, the marvellous ductability of metal was known and utilised, and the art of beating up from the flat sheet was practised. One of the earliest examples extant of this work is the bronze statue of Pepi I., about 3,400 B.C., a hundred years before any trace is found of that other ancient method of work—casting; and there are numberless specimens from Egypt and the East generally to be found in our museums far earlier than any European work to which any definite date can be given.

There is something particularly fascinating in the shaping at will of such a material, and in no other method of metal work has the craftsman so extraordinary a control of his material, or so large a possibility for the exercise of his fancy and ingenuity in the fashioning of it. There is also a peculiar charm in the fact that in this craft the best results are usually obtained when only a general idea is in the worker's mind at the start, and when he allows each change in the shape of his work to suggest some new possibility to his mind.

In modern times casting has almost entirely superseded the hammer for such large work as statues, but in earlier times it was not so. In Exodus we read of the two golden cherubim on the Mercy Seat being beaten each from one piece, and as late as the sixteenth century, Benvenuto Cellini tells how he hammered the heads of full-sized silver statues like bowls and then chased the features in with chisels.

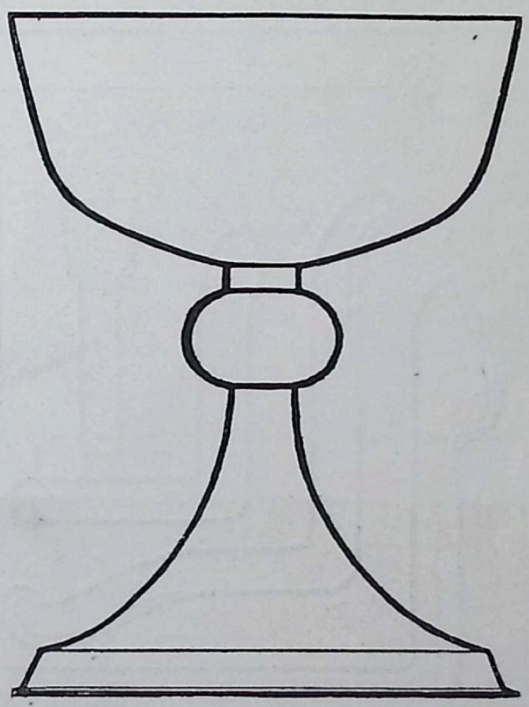
The tools required for hammer work are stakes, a block or vice to hold them, a bick iron, several hammers, a pair each of compasses and callipers, to which may be added a sinking block and mallet. A very useful stake is one shaped like a T, the two arms of flattened oval section, one about $2\frac{1}{2}$ in. wide by 1 in. deep, the other $1\frac{1}{2}$ in. by 1 in., each about a foot long. Work of almost any shape can be raised on this, though in most cases some other stake, fitting more exactly the required contour, will be needed for the final shaping and planishing. The T stake is of iron, steel faced. It is well to round off slightly any sharp corners at the end of the arms. The tapering shank fits into a hole in a block of wood or stone, about 2 ft. high, standing on the floor, or the stake may be held in the vice.

A piece of brass rod 18 in. long and $1\frac{1}{2}$ in. in diameter, held in the vice, proves a good substitute for the T stake; in some ways it is even better, for it does not thin the beaten metal so much.

The bick iron also is T-shaped, but in this case one arm is flat on the top, and the other is circular in section, tapering from about $1\frac{1}{2}$ in. in diameter at the shoulder to $\frac{1}{2}$ in. at the end.

The vice used should weigh 65 to 98 lbs., and have jaws 5 in. wide; vices of 50 lbs. weight and under are not rigid enough to prevent vibration.

Other useful stakes are shown in the illustration. They can be made by a blacksmith, but, except for



Chalice Cup.

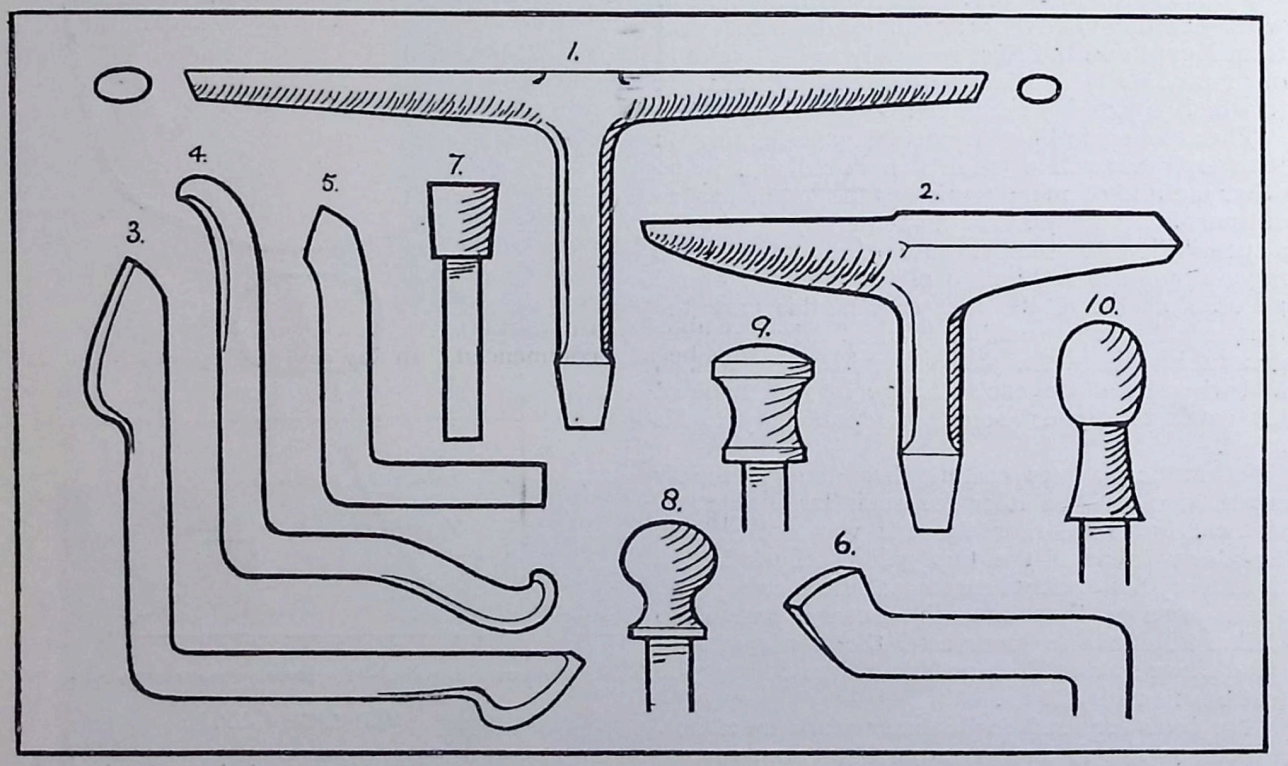
(Bowl: $3\frac{1}{2}$ in. across; $1\frac{3}{4}$ in. deep. Foot: $3\frac{1}{2}$ in. × $2\frac{1}{4}$ in.)

very small work, in no case should the iron used for the shank be less than 1 in. square; $\frac{3}{4}$ in. snarls abominably. Another tool, called a horse, is T-shaped, and has a hole drilled through each arm near the end, into which small square-shanked stakes are put. It is useful for doing work near the bottom of deep vases or bowls where another stake could not reach. The sinking block is a heavy piece of wood, often a piece of a tree trunk 2 ft. high, with several shallow circular depressions cut in the top. These hollows range from about 8 in. in diameter and $1\frac{1}{2}$ in. deep, to 2 in. by $\frac{1}{2}$ in. Pieces of metal can be sunk to a rough saucer shape in these hollows by means of a round-faced mallet or hammer, before the raising proper is commenced.

The rule for finding the size to cut your sheet of metal is: Take rather less than the combined

height and width of your bowl or whatever you are to make, remembering that a narrow shape takes less metal than a wide one of the same combined measurements. A semi-circular bowl 6 in. diameter will come out of a piece 8 or $8\frac{1}{2}$ in. across, if the metal is a fair thickness, say, 12 or 15. If the metal is thicker than this, and you care to thin it in hammering, of course a smaller piece will do. The little beakers sometimes seen, made from five shilling pieces, with the inscription on their edges intact, are examples in point. The shape of the raising hammer is shown in the illustration. It should not be less than $1\frac{1}{4}$ in. across the face; if less, the corners are apt to dig into the metal and give more work in planishing. One face of the hammer should be flat, but have both edges and all the corners well rounded off, particularly the front ones, *i.e.*, those furthest from the handle. The other face is more rounded, and is used if you wish to stretch or thin your metal when raising. For general work, a hammer with face $\frac{3}{8}$ in. thick will be found handiest, but another measuring only $\frac{1}{8}$ in. is sometimes needed.

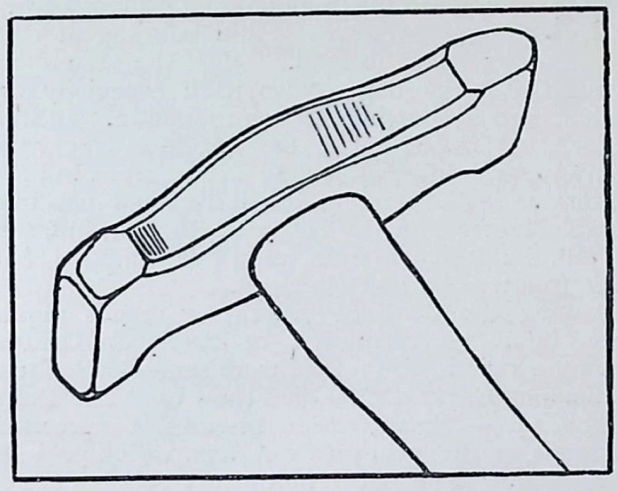
Let us suppose that you are to make the chalice shown herewith. The bowl measures $3\frac{1}{2}$ in. across by $1\frac{3}{4}$ in. deep; the foot $3\frac{1}{2}$ in. by $2\frac{1}{4}$ in. Take for the bowl a circle or "blank" $4\frac{3}{4}$ in. diameter of size 14. Silver, and with the compasses lightly mark, from the centre, another circle $2\frac{1}{4}$ in. diameter. In the sinking block, with as few blows as possible, hammer to a rough saucer shape, the scratched circle on the outside. The T stake being in its block or in the vice, the smaller arm towards you, hold the piece of silver against it, with part of the scratched circle as nearly as possible in a line with its top corner. The edge of the silver should be tilted up $\frac{3}{4}$ in. above the top of the stake and held by the left forefinger; then, with the flatter side of the raising hammer, strike a blow just outside the circle. The strength of the blow should be sufficient to carry that part of the silver touched by the hammer forwards and downwards against the top of the stake, and about a quarter of an inch from the end. Turn the silver slightly round, still keeping the scratched circle opposite the upper corner of the stake, and strike another blow beside the first. Continue this process till the hammer marks form a spiral round and round the bowl from the scratched circle to the edge. Before the hammering has reached the rim, the latter will present a very wavy appearance. This is correct, but great care should be taken to prevent any folding of the metal. Folds mean cracks a little later on, and they must be avoided at all costs. The metal will now be too hard to go over again; but, before annealing, hold it in your hand or on a sandbag, and hammer straight down on to the edge all the way round. This is to thicken the rim. Anneal it by raising to a dull red heat with the blowpipe, and when the redness has gone off, cool in water or pickle (1 part sulphuric acid to 6 parts water). In annealing copper, quench when red hot. Continue the



VARIOUS-SHAPED STAKES USED IN RAISING METAL.

hammering till the bowl takes shape, always remembering to thicken the edge before annealing. The curved bottom of the bowl may be bulged out to shape, with the mallet.

Beginners may find some difficulty in getting the bowl small enough at the top. There are two good



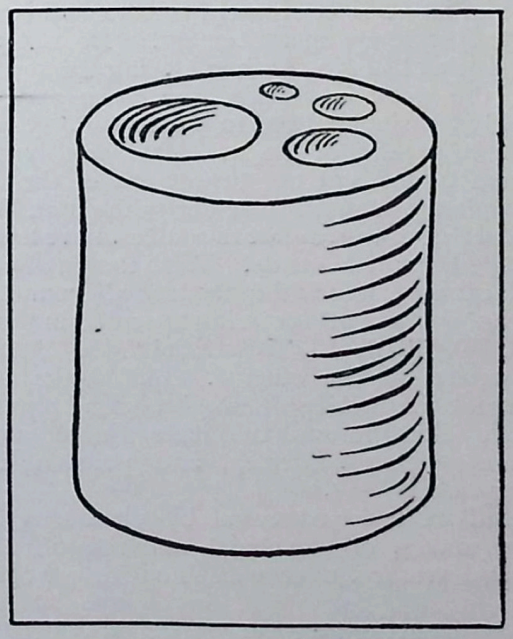
RAISING HAMMER.

reasons for this. Sufficient care has not been taken to keep the edge of the metal some distance above the stake, and the contracted metal has thus been allowed to slip back, especially as the hammering approaches the rim; or the edge of the hammer is too thick. In the latter case use the thinner hammer.

When the shape is correct, the bowl will require planishing, that is to say, hammering smooth and true all over. First, find a stake which fits the curve. Make sure of this by holding the stake against the drawing. Probably it will only fit a part of the curve, in which case use the stake for planishing that part only, and find another for the rest.

See that the stake is clean and smooth. Start at the centre of the bowl and hammer out all the uneven marks. The hammer used should be quite flat on the face, but a beginner will find it convenient to use one with the sharp edges taken off. Half-moons may be decorative, but they are not exactly evidences of skilful hammer work. Strike from the elbow, or wrist, not the shoulder, as it is not easy to aim truly from there, while if the elbow be kept still against the side, a hammer with sharp edges can be used with impunity. After doing a little piece, look inside. If the planished part there also does not look quite truly hammered, you must strike harder or use a heavier hammer. It sometimes happens that, if the stake does not fit very well, ridges are formed inside. If so, do not planish straight round, but do little patches about $\frac{3}{4}$ in. across at a time. Watch your outline, and remember that if you continue to strike solidly on any one place, the stretched metal must go somewhere; so the hammering will tend to raise a bump. When you have finished planishing, file the top true and give it a grind on a flat sandstone to make quite sure.

For the foot take a piece of size 16 silver, 5 in. in diameter. Round the centre scratch lightly a circle $\frac{3}{4}$ in. in diameter, and raise from there. The bick iron will be found the most useful stake, but make sure that the point is not so sharp as to cut the metal. It will not be necessary to hammer the edge thicker in this case. The diameter of the scratched circle should be gradually reduced as the foot comes to shape. With the calipers compare the width with that of the drawing. You will find that, if the silver is always rotated in the same direction when raising, the resulting work may be found to lean to one side. This difficulty can be obviated by reversing the direction of rotation for each course. Should the foot not seem to be coming tall enough, use the rounded side of the hammer, particularly about half way between the top and the rim. Should it be coming too tall, use the flat side, and hold the silver so that the point of the bick iron does not continually press against the top of the foot. If this does not stop it growing, take your work to the T stake, and on the smaller arm from about half way between the top and the rim, work till the latter is rather smaller than the required size. Then turn the bick iron so that its point is away from you, and raise from the rim to the top, not from the top to the rim, as you commenced. In any case it is convenient to do an



THE SINKING BLOCK.

occasional course in this direction in getting the hollow curve of the foot. When by the calipers and the eye you find that the foot is correct in shape down to the little shoulder about half an inch from the bottom, planish down to there, and lightly scratch a circle to mark the corner. Then on the

small end of the T stake turn the last half-inch downwards to the correct angle, planish it, cut the edge true, and finally, holding the foot upside down against the side and upper edge of some rectangular stake, tap over the little $\frac{1}{8}$ in. flange shown in the drawing. Then make the bottom true, so that it will stand on a piece of plate glass without rocking, and yet touch all round. File the edges.

Should a hexagonal foot be required, proceed as above as far as the turning downward of the last half-inch. In this case, turn it rather more steeply than will be required, as the difficulty later will be to keep the base narrow enough. Anneal, and then divide the rim into six equal parts, and draw lines very carefully to the top. These lines show where the corners are to come, and great care is necessary to see that they look true to the eye as well as measure correctly. Cut out the little piece which forms the top of the foot. On any convenient stake flatten each of the six spaces with a mallet. Draw straight lines from corner to corner, crossing the lower part of each of the six spaces, then on a square-sided stake turn downwards all the metal which projects beyond the lines last drawn. Planish all over, taking great care to keep all the edges true. The bottom will now be uneven and must be cut level, and the little flange tapped over as above directed.

The knop measures $1\frac{1}{8}$ in. by $\frac{11}{16}$ in. Take a piece of size 12 silver 2 in. in diameter. Note, in this case, the work is so small and difficult to hold that it is convenient to take rather more than the ordinary measurement. Do not use a stake shaped like No. 8 when closing the top in, as when the work is finished the stake may show a decided disinclination to come out. Use one like the lower end of No. 4. After any ornament has been added, cut out the centre of the knop, having plenty of room to solder to the foot. When the soldering of this, and of the collar above has been completed, file true inside. Wire the bowl on and see that it measures and looks true all round. Do not drop pieces of solder inside the collar in the hope that they will flow. They rarely do. Apply all you require on the outside. The soldering will have made the metal soft, so give a final planishing all over. Boil the work in pickle, file off any unevenness left in soldering, and polish it in the ordinary way.

Fluted work is executed by planishing on to shaped stakes, or the bowl may be filled with pitch and worked over with modelling (repoussé) tools.

In commencing hammer-work a lack of sufficient stakes may be troublesome, but if you have a new stake made occasionally as you require it, or alter a useless shape, a good working set will soon be accumulated. Remember that you have a very handy set of small stakes in your hammers, of which about a score will be gradually arrived at, and do not even overlook the head of the kitchen poker, or the bottom of an ordinary flat-iron.

HERBERT J. MARYON.

The Art Schools.

DRAWING FOR REPRODUCTION AT THE LAMBETH SCHOOL OF ART.

MANY of our best known illustrators have acquired the foundation of their knowledge of drawing and painting at this excellent school. But the Lambeth School of Art perhaps prides itself especially on its teaching of drawing for reproduction. In this branch of instruction it has qualified not only many present illustrators and art masters, but art editors as well. Among the last-named was one of the cleverest on the Harmsworth staff, but, sad to tell, he lost his sight, and this affliction has been followed by loss of reason.

Among the work of present or recent pupils seen by a representative of ARTS & CRAFTS during a visit to the school were some book illustrations by Edward Blampied (now on "The Daily Chronicle")—the conventional method of expression founded on the primitive woodcut, which prevails at Lambeth, as at most of the art schools, is not unsuitable for coarse newspaper work. Some neatly executed drawings by Grace White were in three tones, represented by the coarse penline, the white of the paper, and a tint of lead pencil—technical restrictions quite unnecessary from any artistic consideration and certainly undesirable from the point of view of the publisher, for the pencil tint could not be reproduced by ordinary line process. The art editor of a newspaper or magazine who wished to have such a drawing reproduced would simply pass his blue pencil over the portions now covered by the lead pencil tone, thus indicating to the "process" man that they were to be rendered by mechanical tint—a device which does not add to the ordinary cost of reproduction. To make this point clear to the uninitiated, we give (see p. 49) an ordinary newspaper line drawing in which the grey tone has been obtained by this economical and time-saving little "dodge" of the "process" man, which, we may add, is well known to practical illustrators.

Miss Ivy Hertslet has some line drawings in the mid-Victorian manner which strikingly illustrate the fallacy of the plea used in defence of teaching the imitation woodcut method of expression against which we have so often protested. The argument is that by the adoption of this convention, the student is saved from the temptation to imitate the technique of other pen draughtsmen, and in due time will develop a style of his own. But the latter thing seldom happens. The clever student of black and white, no less than the student of painting, is bound for a while to base his technique upon that of some favourite model. Instead, however, of choosing the example of a master of line like Vierge, Rico, Detaille, or our own du Maurier, Bernard Partridge or C. M. Brock, and gradually evolving a style of his own like Pennell, Townshend or Pegram, the student of pen drawing, as it is

taught in our schools at present, escapes from his strait-jacket of convention, which is based on the primitive German woodcut, only to don that of another fashion, which is based on the woodcut of a later period. The drawings by Miss Hertslet were in the style of Frederick Sandys, who as a designer was a good model to follow; but the lady may not be aware that it is not this artist's line that she has imitated so much as that of the employees of Dalziel Bros. who cut his work upon the block. It is safe to say that if Sandys had lived at the present time, when his work could have been reproduced photographically by process, it would have differed very considerably in technique from the drawings he made upon the boxwood and washed with India ink and Chinese white.

Both in their black and white, and colour book designs there is much merit in the work of Miss Lucy Renouf, Miss Alice O'Regan, Miss Maud Gerrard, Miss Margery Wood, Miss Helen Lock, Miss Gertrude Steele and Miss Marion Dawson. Miss Gertrude Brodie is now teaching at a large art school. Miss Janet Simpson, another former pupil of the Lambeth School, whose picturesque pen-and-ink views of old Camberwell were seen at the National Competition Exhibition, we understand is now etching; in the practice of that difficult art she will doubtless acquire reticence of expression, which will improve her technique as an illustrator.

In conclusion, a word of commendation is due to the careful certificate work of Miss Ruby Williams and some pages of an illuminated Communion Service by Miss Margaret Trinder.

SOUTH KENSINGTON SKETCHING CLUB COMPETITIONS.

THE students of the Sketching Club affiliated with the Royal College of Art held an exhibition of unusual interest from October 23 to November 4 in one of the iron buildings behind the Museum of Natural History. The work shown was the result of the competitions during the summer vacation for prizes offered by the masters and other friends of the students. The degree of excellence attained in the painting classes was full of promise, marking a distinct advance upon the work of last year.

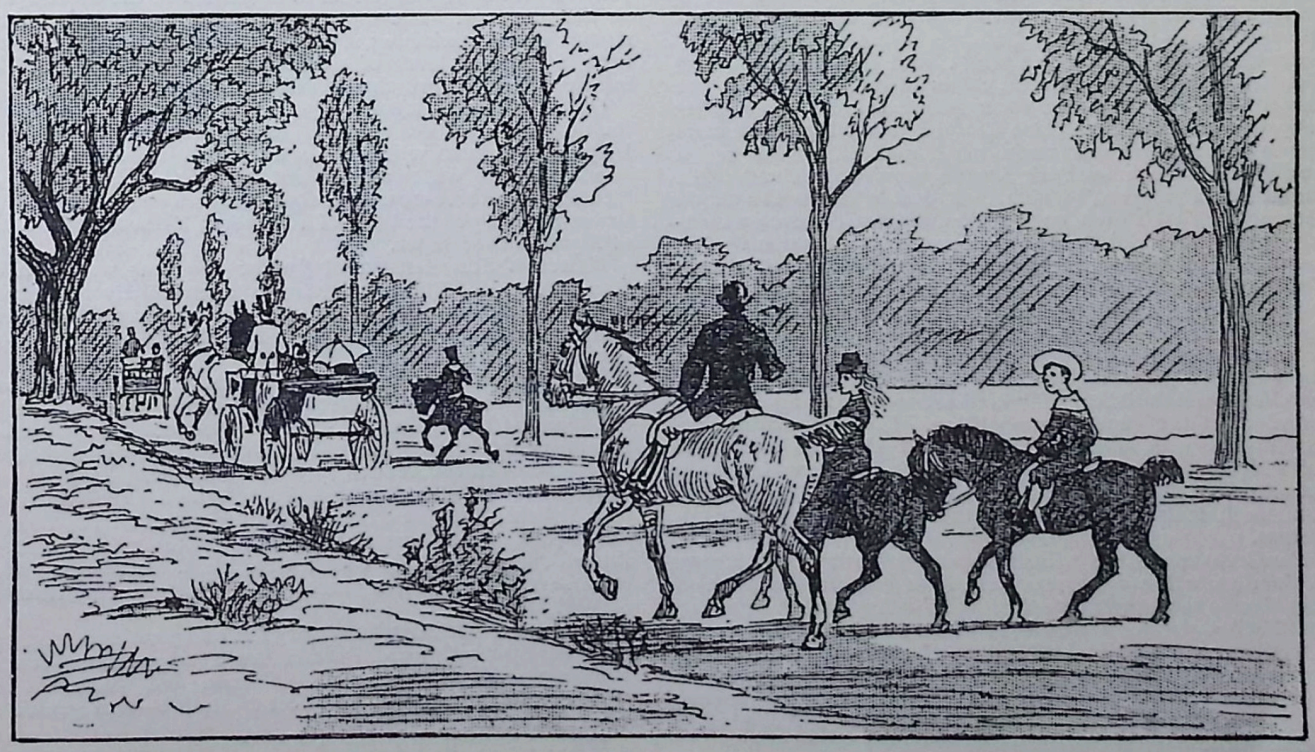
Professor Moira's prize for a decoration showing "The Reception of Don Pedro and Benedick by Leonato and his Court," in "Much Ado About Nothing," was awarded to Launcelot Crane for what was certainly a clever and dignified composition, but the unvarying vertical line was monotonous. For colour the best cartoon was Oliver Senior's, which received an honourable mention. Miss Hilda Giraud's colour was also good.

The first of the Duke of Devonshire's prizes for a "Set of Sketches in Colour," for which there were nearly a hundred competitors, was awarded to Mr. Senior for a capital set of shore studies. The second prize went to F. Forbes Clark, for a strong harbour effect, and the third to Miss Clara Billing for views of Swiss scenery in coloured chalks. Many of the other sketches were of uncommon excellence, notable among them being a study, by Miss Sally Ashworth, of a stone bridge reflected in still water, which was badly hung.

The subject of "A landscape in illustration of a passage from one of Milton's Minor Poems" called forth several very creditable essays. The prize (given by Mr. C. W. Whall) went to Janet Brennand for a very careful roof study at Rouen Cathedral. Frank Jones received honourable mention.

Why the prize for "A Portrait" was divided between George R. Woolway and G. A. N. Reed was not easy to understand; for while the work of the former was painter-like throughout, there was no special merit in the canvas of the other except in the rendering of certain details of costume, which were given undue prominence. On the other hand, Frank Jones' study of himself, which was not even "mentioned," was painted with verve and uncommon ability.

The first prize for "An Effect in Nature" fell easily to Mr. Woolway. A second prize was given to T. Maidment,



PROCESS LINE BLOCK, ILLUSTRATING THE USE OF THE MECHANICAL "TINT." (See page 48).

whose work, while very painstaking, was cold and photographic.

For studies of "any form of craft work," the first prize was won by Janet Brennand for her studies of stained glass windows made at Rouen, and a second prize was well earned by Harry D. J. Powell for his careful studies of stained glass in Lowick Church, Northamptonshire.

Mr. Walter Crane's prize for a design for any decorative purpose was awarded to Frank P. Brown for a design for printed cotton. An honourable mention was given to Austin O. Spare for a mystical colour plate called "The Focus of Life."

In the Figure Subject ("Wanderers") Competition the prize went to Henry J. Lintott for a beautiful composition of two maidens at a pool. In the Club's own competition for a Landscape in oil colours, there were many capital works. The first prize was won by John F. Pettinger for a set of three brilliant sketches at Staithes and one on the Seine. Charles A. Wallis well earned his honourable mention, if only for his strength in perspective. The "Pont Neuf," by Grant Murray, also honourably mentioned, was very painter-like.

For the best set of sketches in black and white, it was pleasant to note that the prize was awarded to Louise R. Jacobs for her straightforward pencil sketches at some riverside wharf. They showed a nice appreciation of the decorative line, which suggested that this lady might, if she chose, succeed as an etcher. An honourable mention was awarded to J. G. Tarratt, whose sketches of trees in lead pencil were better than those in ink, and they, in turn, were better than his architectural pen studies, which we would say showed a heavy hand, were we not satisfied that their coarseness was due less to the student than to the pernicious system of instruction in pen-drawing to which we have so often called attention. Some book-plates by Frank Carmichael were remarkably good, both in design and execution. The best black-and-white work in the room was by G. F. Kruger, but since his well-earned appointment to the teaching staff of the Sir John Cass Institute, perhaps his drawings should not be included in a notice of students' work.

THE GILBERT-GARRET COMPETITION.

EIGHT of the school sketching clubs competed this year, in the Gilbert-Garret, viz., Birkbeck, Grosvenor, Lambeth, Regent Street Polytechnic, Chelsea Polytechnic, St. John's Wood, South Kensington, and Westminster. The lion's share of the prizes went to the South Kensington Club, which carried off a first, second, two third prizes, and five honourable mentions—this included all the prizes for "Evening" competition, and another one might well have been given to Miss Browning for her warm, colourful interpretation of the theme. The poster design for a picture sale for which Miss Davy was awarded first prize showed two silhouetted male figures in mediæval costume in black and red against a flat grey ground, much too dark for the requisite contrast. Mr. Lintott's "Wanderers," which took first prize in the South Kensington Club's own competition, did not get even a mention now. Lancelot Crane's version (awarded second prize) represented a picturesque band of troubadours, and Albon Wallace's (which took third) a party in a lock, well composed and effectively carried out, but apparently have nothing to do with the given theme. The same may be said of P. Jowett's mediæval torch-bearers, honourably mentioned. Henry Parr, who took first prize in Professor Lantéri's competition for a modelled representation of "Motherhood," was again given first place in the general competition. His composition was certainly very beautiful in line. Hardly less so was Miss Roff's seated mother bending over her infant, which took second prize. The charming group by J. Patch, honourably mentioned, took second prize in the South Kensington competition.

The Grosvenor Club gained several awards: Miss Mayor the third prize for figure subject, Miss Rankin second and Miss Morris third prizes for design, Miss Ashby first prize for award of honour certificate, Miss Watkin honourable mention for landscape and animal subjects, and nine other members received honourable mention.

The Polytechnic School of Art (Regent Street): Spencer Pryse the first prize for figure, and eight other students were commended.

The Lambeth Sketching Club: Janet Simpson first prize, Mary Simpson third prize for animal subjects, also nine honourable mentions.

The Chelsea Polytechnic Sketch Club: Miss Milne third prize for modelling, and six honourable mentions.

The Birkbeck Sketch Club: W. Tanner and U. A. March for figure, J. Etherington Bartholomew for poster, W. Tanner, Harmsworth, Moody, C. Chemption, H. Fletcher, and J. E. Bartholomew for landscape received honourable mention.

St. John's Wood Sketch Club: Pickering Walker and W. E. F. Crittall received honourable mention for landscape.

The Acton and Chiswick Polytechnic Sketching Club held an interesting exhibition at the school in the Bath Road, Bedford Park, on October 21. The only exhibits of applied arts were two neatly bound books by Molly Pope, for which a second prize was awarded; some stained and leaded glass by Mrs. René Finch, who is now executing a large window, of which she showed the cartoon, and a charming grey cashmere bodice and bonnet, designed and embroidered by Editha Barrett, for which a first prize was given. This young lady also showed a design for tapestry. There was a design for a painted plate, which bore no name. A spirited hunting frieze was shown by Miss Williams, but the accompanying design for the wall paper, consisting of horseshoes and whips, would be very monotonous. The numerous oil and water-colour sketches included several of decided merit, notable among them being A. Hyndman's work, which won a first prize, and Maud Parsons' studies in oil colours of St. Ives Harbour and fishermen's quarters, and an old fisherman. Miss Walker showed clever farmyard studies, and Miss Padby some little sketches of Bosham, which won a third prize, and a black-and-white drawing representing "Eugene Aram" was awarded a first prize. S. Rigby was the only exhibitor of architectural drawings, which included measured drawings from the old house of Sir Peter Pindar, formerly in Bishopsgate Without.

THE ROYAL FEMALE SCHOOL OF ART.

THE annual exhibition of the students' work was held on November 3 and 4 at Queen Square. The exhibits were principally the drawings and studies carried out in competition for prizes at South Kensington, and also for the scholarships given to the school by various companies. Unfortunately there was no catalogue, and the large number of exhibits makes it impossible to do justice in the short space at our disposal. The high standard of the paintings and studies was remarkable; it is a long time since we have seen such a general level of excellence in school work. The following are the principal results of the scholarships:—

QUEEN'S SCHOLARSHIP of £50 for two years was awarded to the best set of six drawings, chiefly figures. This was won by Jessie Silvester, whose list of exhibits included: Studies of hands and feet, which also gained a National Book Prize at Kensington; three-quarter length figure of an Italian peasant woman; study of the head of a negress; a drawing in chalk of Myron's Discobolus.

MERCERS' SCHOLARSHIP of £30 for one year was won by Eva Howgego. This scholarship is given chiefly for figure, and the works exhibited were studies of hands and feet in red and black chalk, chalk drawing of Discobolus, and studies of heads in chalk and water colour.

THE CLOTHWORKERS' SCHOLARSHIP, value £30 for one year, was awarded to Beatrice Miller, who exhibited a still-life group of plovers, which gained a National Bronze Medal. She also exhibited some figure studies and a study of foliage.

ATKINSON SCHOLARSHIP, £30 for one year, is given for different stages of design, and this year was gained by Winifred Marchant, whose chief exhibited works were two designs for damask, which won two prizes from the "Old Bleach" Linen Company of £5 each; two 18 in. friezes for wall-paper, one of which was purchased by Messrs. Hayward, of Regent Street.

GILCHRIST EXHIBITION of £25 for one year, and arranged this year by Sir Edward Poynter for a three-quarter length painting from life—A study of hand and foot from the antique: study of hands and feet from life—was gained by Violet Bloom.

BRIGHTWEN SCHOLARSHIP of £15 for one year for a group of still life; a study of flowers and foliage; tone and

colour studies of still life, was gained by Maud Sothers. In competition for this scholarship Jane Blaikley showed such a good set of drawings that the examiners awarded her a prize of £5. One of her studies, a group of onions, seakale, and cauliflower, gained a National Bronze Medal, and at the Exhibition was bought by the Board of Education.

KING'S GOLD MEDAL, given this year for a design for brocade hangings in the Italian style, was gained by Annie Seaton. It was submitted to the King's inspection, and was purchased by Messrs. Warner, and manufactured by them—a piece of the tapestry being shown.

A National Bronze Medal was won by Amy Cockburn, for a design of dress brocade. This was bought and manufactured by Messrs. Warner.

Besides these there were shown the usual drawings for the A.C.T. Certificates.

The Modelling Class won a National Book Prize for a study of drapery in the person of Violet Mander.

The Fashion Class showed good examples of different styles of working drawings, drawing for catalogues, &c. Several of the former students in this class are already earning their living by this work.

The Black-and-White Class has for its two principal objects the training of students to the use of good line work, and the development of their powers for original thought, brought out specially in the Illustration section of the class. The first prize for the best set of illustrations of four scenes from "Cinderella" was won by Rachel Ethrington-Smith, the second by Helen Brown, and an hon. mention being given to Davina Mathewson.

REVIEWS.

"Leather for Libraries" is the title of a little volume of such practical value that it may be regarded as indispensable to all interested in the permanence of book-bindings. It is in five chapters, each written by an expert. The contributions in some cases overlap, but they are none the less valuable on that account. E. Wyndham Hulme writes on the "History of Sumach Tanning in England, Degradation of the Manufacture of Leather, and History of the Reform Movement"; J. Gordon Parker on "The Causes of Decay in Bookbinding Leathers"; A. Seymour-Jones on "Provenance, Characteristics, and Values of Modern Bookbinding Leathers"; Cyril Davenport on "The Repairing and Binding of Books for Public Libraries." F. J. Williamson's contribution is entitled "Specification for the Fittings of a Small Bindery," but it includes valuable hints on such germane topics as repairing torn leaves, inserting loose leaves, and replacing books in their covers. Specimens of book leathers are inserted inside the covers—viz., goat, seal (bold grain and fine grain), calf, sheep (Roller Basil) and pig. [Published by the Library Supply Company, 181, Queen Victoria Street, E.C.]

Lantern Slides for natural history demonstrations in schools and the family circle receive valuable additions by the issue of the "Junior Lecturers" series of British butterflies and moths, birds, reptiles, and sea and wild animals, by Messrs. Butcher & Sons. The reproduction of the "Clifden Nonpareil" butterfly, which is before us, is beautifully marked and richly coloured. It is one of eight slides, which cost only 2s. the set.

"Jewellery," one of the best of the admirable "Little Books on Art," is by Cyril Davenport, general editor of the series. With its well-written and beautifully printed text and its frontispiece in colour and numerous other illustrations, it forms a most readable and trustworthy introduction to the big subject covered by the title. It is amazing how much information Mr. Davenport has managed to get into so small a compass and still find room for anecdote and practical up-to-date suggestions. The familiar story of Marie Antoinette and the famous diamond necklace loses nothing in his re-telling it; the explanation of why an English bride wears the wedding ring on the third finger, we dare say will be new to many of our readers, and so will the facts about the introduction into the English arms of the Crown of Charlemagne by George I. and its rejection by Queen Victoria. With the praiseworthy efforts of many of our younger designers in view, the author expresses the hope that pendants may come again into repute in England, as they were in the time of Elizabeth. He would also like to see a revival of jewelled clothing, as in the days of that splendid monarch. In the latter hope he seems to find encouragement in the fact that the Coronation robes of Queen Alexandra were richly jewelled and that Her Majesty also wore a wire-work filigree ruff set in the shoulders, which was also thickly jewelled.

In conclusion, we would note the author's protest that "there are still in London certain classes in technical schools supported by the public, to which the public has not free access. This is utterly wrong," he says. "Let all technical schools be open to everyone who will pay the fees and subscribe the rates, and the many persons who are now ignorant of the real beauties of a lovely silver hammered goblet, or an exquisite wire-work pendant, will learn just enough to fully appreciate the artist's skill and loving labour, and the demand for true handiwork would in all likelihood increase a hundredfold." [London: Methuen & Co., 36, Essex Street, W.C. Price 2s. 6d. net.]

"Handbook of English Antiquities," by George Clinch, F.G.S., is more comprehensive than the name would imply. It is intended primarily for the use of collectors, and treats mainly of antiquities of a collectable character—omitting megalithic remains, foundations of buildings, and tessellated pavements. But the period covered is not restricted to the Age of Stone, the Age of Bronze, the prehistoric Age of Iron, the Romano-British and the Anglo-Saxon periods. Under the head of "Mediæval and Subsequent Antiquities," we find such topics as armour (17th and 18th century), glass, pottery, iron fire-backs, Dutch tiles—which, by the way, can hardly be called English antiquities—pewter, chessmen, and sundials, and a later chapter on "Miscellaneous Antiquities" includes the leather bottle, the tinder-box, the snuff-mill, the playing-card wrapper (of the 18th and 19th centuries), and "Biddenden Maids," which, it is interesting to learn, are cakes such as have been made for hundreds of years in the Kentish village of that name and are still distributed for charity on Easter Day. There are many illustrations in the text, which, with an illustrated "Dictionary of Antiquities," add greatly to the value of the book. [London: L. Upcott Gill, Bazaar Buildings, Drury Lane. Price 6s.]

"The Gate Beautiful," by John Ward Stimson, undertakes to inculcate "Principles and Methods of Vital Art Education," but we find it a strange medley of the metaphysical and mystical, the theoretical and practical. The writer is a man of scholarly attainments who has held responsible positions in New York as a teacher of art, and by his enthusiasm and amiable personality has endeared himself to hundreds of students, in spite of the idiosyncrasies of his teaching which find such elaborate expression in these pages. Mr. Stimson is in dead earnest, and if he would only descend from the clouds and speak every-day English, possibly some valuable ideas might be brought to light. But we fear that this is too much to hope for; so we turn from the text to the illustrations which crowd the pages. There are thousands of them, constituting a veritable storehouse of designs and decorative analysis, covering all times and nearly all climes. In addition there are scores of drawings by old and modern masters, which have been conveyed with discrimination from various familiar sources. Besides all this, we have Mr. Stimson's "charts," very curious, to say the least, and hundreds of his rapid pen sketches. With his vivid imagination and apostolic fervour Mr. Stimson reminds us a little of Blake; but his book, while showing none of Blake's inspiration, is the work of a scholar, and is wholly free from sins against good taste such as marred the utterances of that weird genius. [For sale by B. T. Batsford, 94, High Holborn. Price 17s. 6d.]

CORRESPONDENCE.

These columns are free to all. It is only required that (1) *questions dealing with different topics be written on separate sheets of paper with the writer's name and address on the back of each, and that* (2) *stamps accompany all pictures, drawings, prints, &c., to be returned. All correspondence should be addressed to the* EDITOR OF ARTS & CRAFTS, 37 & 38, *Strand, London.*

Novice—(1) Very likely; there are several pigments safe in oil which are unsafe to use in aquarelle, and the one you mention is one of them. (2) It is better to wash in the first painting too light rather than too dark; for it will be much easier, in finishing, to deepen a tone that is too high than to

clarify one that is too low in key. Above all things, keep the colours fresh; do not mix the greens too much before laying them on. In some cases it is most effective to run in the pure colours, sufficiently diluted with water, blending on the paper with a clean wet brush; anything is better than to work them together until they are lifeless and dull.

K. T.—We would say that the highest distinction of Japanese porcelain is to be found in the artistic character of its decorations, especially when they show least foreign influence. Grace of line, lightness of touch, delicacy of fancy, and a certain reserve and moderation mark the best designs, and set off the wares so decorated from the best works of the Chinese or of any other nation.

Girtin.—(1) The first bronze statues ever cast in England were in the reign of Henry III., for the monument of Edward the Confessor in Westminster Abbey, and also one to Henry III. himself, all executed by the Italian, Pietro Cavalini. (2) The Holbein who is said to have resided in London in the reign of Henry VII. was probably an uncle of the greater artist of that name who flourished in the reign of Henry VIII., and is said to have died by the plague in London in 1554, although some historians place the date of his demise eleven years earlier.

The "Faking" of Photographs.

Editor of ARTS & CRAFTS.

DEAR SIR,—I am sure every true "photographer" who reads your article in this month's ARTS & CRAFTS will feel grateful for your straightforward remarks *re* "faking" of photographs. Personally, I had given up all idea of anyone ever again having the courage to denounce the practice. Why such abortions should be allowed to pass as photographs I cannot imagine. I do not deny that sometimes one sees a "fakement" that possesses artistic qualities, but what I object to is that such works as those you name should be exhibited as photographs. Could not this school of workers adopt a title of their own, with their own exhibition, &c., and leave the photographers to themselves?—Yours truly,

Rochdale. A. SHEPHERD.

(Owing to pressure on our space several letters are unavoidably held over.)

Students' Sales.—The students of the South Kensington Sketching Club sold sketches to the value of £106 against £45 worth last year. Mr. D. Nesbit, of Stanmore, Middlesex, bought Lancelot Crane's cartoon, for his billiard-room. Among the other buyers were Mr. Spencer, principal of the Royal College of Art; Professor Lantéri, Sir Aston Webb, G. Clausen, R.A., Sir Norman Lockyer, Mr. H. Turner Waddy, and Mr. T. Britton Archer.

The Cheyne Art Club, composed of painters and sculptors, nearly all of whom were formerly at the Royal College of Art, held its first public exhibition recently at the Dickinson Gallery. Some work of considerable promise was shown, particularly that of Mr. Scott and Mr. Wallis.

The New Department at the Royal College of Art, lately opened, devoted to instruction in metalwork and enamelling, is contained in three spacious, well-lighted rooms, which are admirably equipped. It is under the direction of Mr. H. Wilson, who is assisted by Mr. Innocent. There is a score of pupils, about a third of whom are ladies. Besides the Fletcher furnaces for firing enamels there are several of the new kind, invented by Mr. Wilson and made by Messrs. J. Plunkett & Co., of which we hear the most favourable reports.

Hull Municipal School of Art.—The "Eastern Morning News" says that at the Hull Municipal School of Art "King's prizes for exceptional success in the advanced art examinations have been awarded to Kate Holmes for elementary design, and to Agnes J. Tarn for decorative painting. Agnes J. Tarn has been awarded a free studentship tenable for one year at the Royal College of Art, and W. C. Bridges has been awarded a West Riding County Council Art Scholarship of the value of £180, tenable at the Royal College of Art."

Günther Wagner's Colours and Inks.—Our readers have been enabled to judge for themselves, by Messrs. Günther Wagner's attractive coloured insets in the magazine, of the charming taste with which this enterprising firm treats even the advertising details of its business. The get-up of their catalogue is in keeping with these fascinating leaflets, and the goods themselves are so tempting that they seem to cry aloud, "try me, try me." We have tried them, and can say that the "Chin-chin" and "Pelican" waterproof inks and the "Pelican" artists' patent water-colours are of excellent quality and delightful to use. Some of our draughtsmen have been especially pleased with the waterproof "Chin-chin" liquid pearl ink; for while, undiluted, it is intense black, they find that, diluted, it may be reduced to the palest grey, and used for washes as freely as ordinary water-colours, leaving no trace of granulation. The "Pelican" liquid drawing inks are made in eighteen different colours, and they also are waterproof.

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A SERIES of lectures has been arranged to be given by various specialists at the above-named school (6, Bolt Court, Fleet Street, E.C.) on Thursday evenings as follows:—November 30, 1905, Edwin Bale, Esq., R.I. (Messrs. Cassell & Co., Ltd.): "The Influence of Illustration in Modern Life." December 7th, 1905, R. Burch, Esq. (of the "British and Colonial Printer and Stationer"): "The History of Colour Printing in England." December 14th, 1905, Frank Colebrook, Esq.: "Latest Developments in Multi-Colour Printing." January 11, 1906, Carl Hentschel, Esq. (Carl Hentschel, Ltd.): "The Future of Illustration." January 18, 1906, E. W. Foxlee, Esq.: "The Use of Bichromate Salts in Photography." January 25, 1906, F. E. Witthaus, Esq.: "English and Continental Collotype Compared." February 1, 1906, F. T. Corkett, Esq. (of Messrs. Raphael Tuck, Ltd.): "The Production and Distribution of the Picture Post Card." February 8, 1906, Arthur Dix, Esq. (Messrs. Bourne & Co., Ltd.): "The Present Position of Wood Engraving." February 15, 1906, Wm. Gamble, Esq. (Editor of "Process Work" and "The Process Year Book"): "The Reproductive Arts in America." February 22, 1906, Edward F. Strange, Esq. (of the Victoria and Albert Museum): "Artistic Lithography." March 1, 1906, Graily Hewett, Esq.: "Caligraphy and Illumination." March 8, 1906, A. J. Bull: "The Photographic Lens." All lectures commence at 8 p.m., and tickets can be had free on application.

"Humorosity" by Lawson Wood.—An interesting exhibition was held last month at the Doré Gallery of the drawings of that clever artist, Lawson Wood, whose work is now a regular feature of the well-known weeklies and monthlies. It was wise of the artist to invent the word "Humorosity" to describe his subjects, for certainly they are more than humorous. His prehistoric drawings are too well known to need description, but to those who had previously only seen them in the illustrated magazines they must have come as a revelation for their charm in colouring. Few comic drawings are acceptable for wall decoration, but these are certainly exceptions, and could safely be hung anywhere and in any company.

ARTS AND CRAFTS EXHIBITION.

THE triennial exhibition of the above Arts and Crafts Exhibition Society will, in all probability, be opened about January 15, 1906, in the Grafton Gallery, instead of in the New Gallery, as heretofore. The receiving days will be December 28 and 29. All particulars can be obtained from E. S. Prior, hon. sec., 3, Old Serjeant's Inn, Chancery Lane, W.C.

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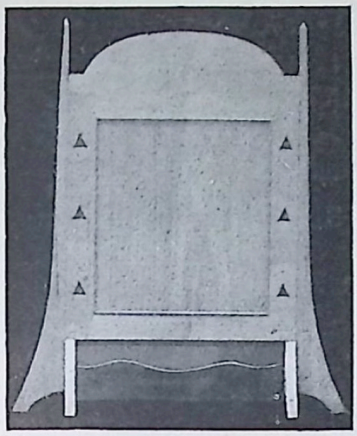

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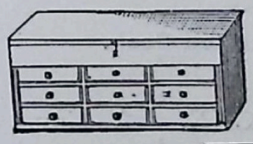

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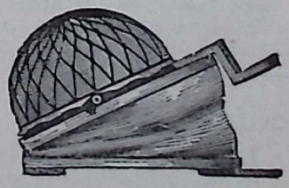

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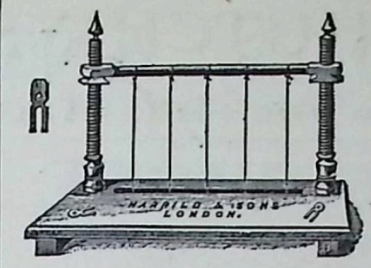

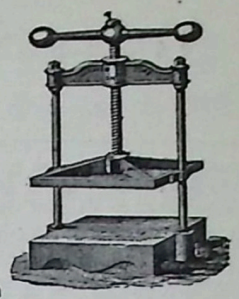

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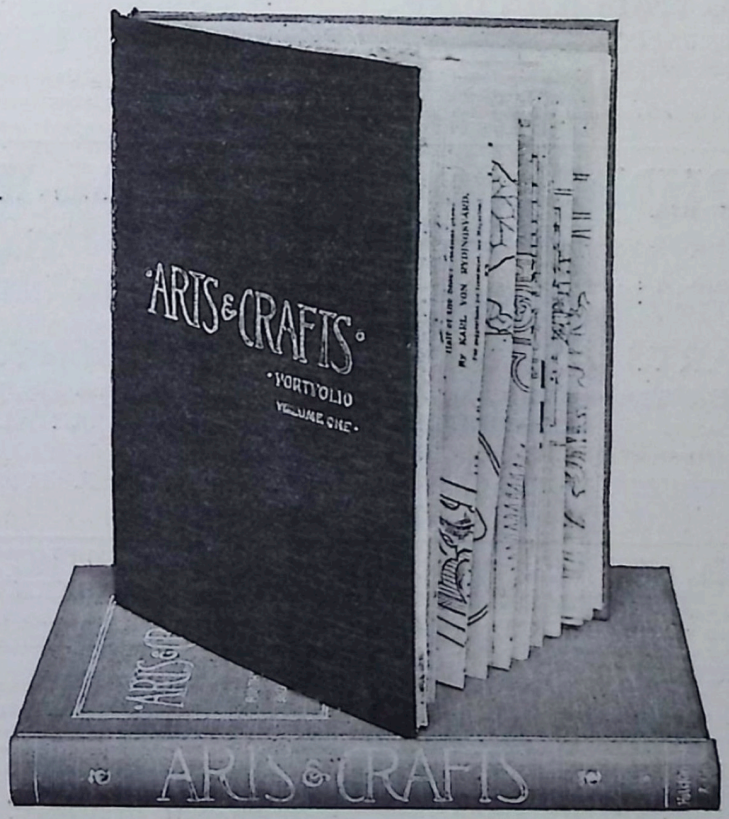

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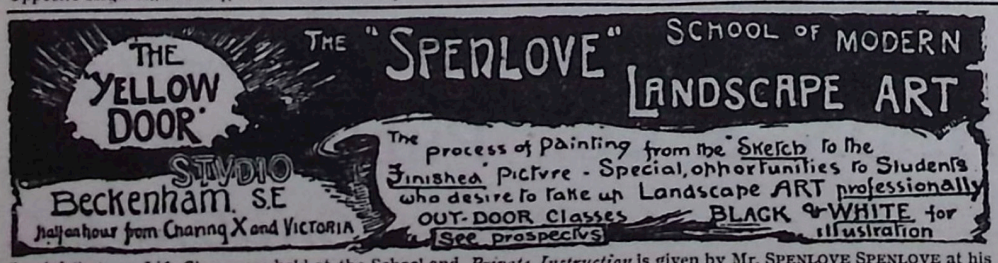

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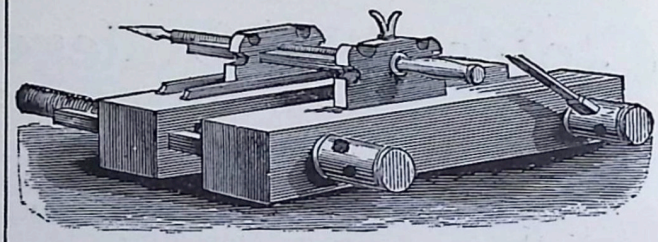

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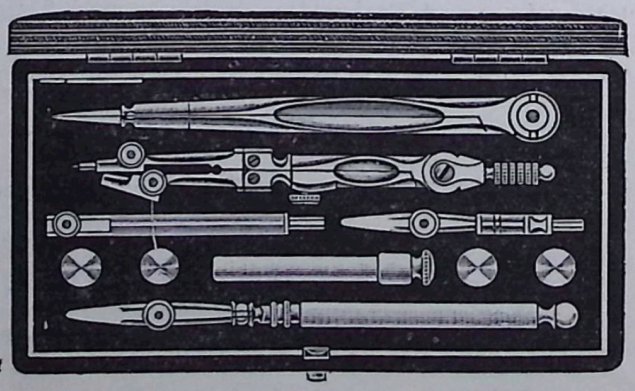

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The Teaching of Art.

The following paper on "Is Art, as taught in Schools of Art and Art Classes, the Art that will benefit the Craftsman?" was read by Mr. W. H. East at the Seventeenth Annual Meeting of the Society of Art Masters.

LADIES and Gentlemen,—The present appears a fitting time to give expression to our opinions on Art as taught in our schools, especially in relation to craft work, in view of the remarkable utterances which have been made by an able Art Master at a recent Conference, where no opportunity was given to refute some of the extravagances there uttered. The watered-down report given in the London Education Gazette Supplement published in March last in no way represents the paper read. We cannot but be alive to the facts that faddists abound, and that at the present time we have numberless theories as to the right way of teaching Art, each perhaps having some good points; but what about those who would draw a distinction between the teaching of drawing and the teaching of Art? This to me is a fallacy, as all teaching of drawing should be Art teaching except where mathematical instruments are used. I note as I write this in the house of an artist friend, a panel in the window of his studio in which is written "Drawing is the soul of Art": he evidently links the two. If drawing is not Art, then it is soulless, conveys nothing to our mind, is expressionless. I should like in support of this view to quote from an address delivered by Mr. E. R. Taylor at Wolverhampton:—

> The aim in teaching drawing is to waken the imagination by developing the innate love of beauty and work, teaching to all the beautiful in nature and art; and for the developing and exercise of this a certain craft power is given, if only the use of pencil and paper. The exercise of this little craft power not only reveals to the pupil hidden beauties, and to the teacher the weakness of the child, both in seeing and expression, but also its individual sympathies, which the true teacher encourages and directs instead of repressing. The pupil unconsciously emphasises those qualities with which he has most sympathy, and the teacher by this finds what and how best to teach; and this, whether the pupil is translating a beautiful form into line and colour, or making use of these in ordered sequence in a design, creating new beauties of combination and developing the power of memory. It is something more than mechanical copying, or the untrained expression of the child's impression. Art training should begin with the first lesson in drawing.

Pupils come to us in various stages of advancement, and the first care of the teacher is to train the eye and hand of his pupils by endeavouring to cultivate their powers of observation and taste, arousing in them a love of the beautiful in surrounding nature; and surely it is most helpful to this purpose that the walls of our schools should be adorned with the best examples of all periods and schools, for "out of nothing nothing comes." A training in model drawing, in which construction is explained, is essential; and it is in this stage that a pupil can be most readily taught proportion, and the laws of perspective explained, and early lessons in light and shade given, drawing from nature of foliage and natural objects of every description following. Memory drawing should be given in *each and every stage*, but before a pupil draws from memory it is essential that he should be able to use the pencil and have some knowledge of construction, the object to be memorised being analysed in the first instances by the teacher, and the methods of memorising explained. The pupil is thus taught how to look for leading lines, structure, and proportion, and helped to observe correctly for himself. The study from life and antique should as early as possible be cultivated, this being the most essential study for good drawing, and the one most likely to find out a pupil's weakness. The necessity for placing before our pupils only good models is obvious. Early lessons in design should be given, for I am one who believes that if by design we mean composition or arrangement, it can be taught, for are not the laws which govern composition capable of being demonstrated? Thus a pupil is taught the general principles first, and his after training should be to specialise in view of the trade or craft which he proposes taking up. This has been the aim and object of these schools (originally called Schools of Design) from the first, and I have no hesitation in asserting they have fully justified their establishment. Pupils should be taught Art expression in the simplest materials to prepare them for the workshop.

It would appear from the utterances to which I alluded in my opening remarks that to produce good designers the Art of the past should not be studied, leaving the student with unbiassed mind, so that originality may follow! What a fallacy! Are all our museums to be closed, are the works of all our great masters to be placed in a cupboard and locked up, and the works of Michael Angelo "pushed up the chimney"? Is all the literature of the past to be locked up, and the man of letters to be debarred from reading Chaucer, Shakespeare, Spenser, &c.

We might as well at once give a child the twenty-six letters of the alphabet and tell him to learn to read and compose from them. Should not rather the eye be educated by looking on that which is beautiful? Study nature by all means, for it is absolutely essential; but let this study go side by side with the study of ancient and mediæval Art. Can there be a doubt that from a study of the historical records of Art in the past we gain the results and experience of others, and are taught to see and appreciate that which is good? Sir Joshua Reynolds says:—"The more extensive your acquaintance is with the works of those that have excelled, the more extensive will be your powers of invention, and, what may appear a paradox, *the more original will be your conceptions.*" I say if we are to ignore that which has already been done, to shut our eyes to the treasures of the past, we shall be placing our pupils much in the position of the early savage with respect to Art. I wonder

what Alfred Stevens would have said to a policy such as this. How much of his life was spent in the study of our great masters? I am anxious to hear the opinion of my fellow Art Masters upon these points, and if this short paper elicits them one of its main objects will have been attained.

In our Schools of Art the Art pupil receives a training second, I venture to say, to no other, and those who saw the exhibition of students' works and designs at the Health Exhibition in 1884 will remember them with pride. I hope that at the forthcoming Congress on Drawing in 1908 we may show what the English schools are now doing, and prove that we are in no way behind other countries in endeavouring to train our pupils in the right way.

I hope, too, that at our future meetings papers will be read on methods of teaching, and that discussions will take place thereon, as we are but wishful that the training given in our schools should be of the best, and that we may unite in one aim in endeavouring to help each other to this end, convinced as I am that to become proficient in any branch of learning we must not only study the work of the past, but also see what others are doing at present. This has been the practice, and the general improvement in design and in the public taste is mainly due to the influence of the teaching in the schools. With these brief remarks I ask for your discussion. I feel that I have very inadequately dealt with the subject, but (if there is to be a discussion) time must be a consideration.

The Chairman (Mr. F. Marriott) said he thought that in view of the tendency of some modern ideas on the way in which Art should be taught, this very interesting paper would offer food for ample discussion.

Mr. Beale said that Mr. East's paper was pregnant with thought. This was an important time for Art Masters, and a time for them to be a little more emphatic than they had been in the past. If Art was to be studied with a view to the advancement of the artistic industries of the country, those who controlled it ought to know more about it. Art masters should urge the appointment of a Director of Art. As an illustration of the way in which provincial schools were treated, he might mention the Art portfolios which the Board of Education sent to schools from time to time. Schools in London and some of the large towns had Art Museums, but in some provincial towns the Art Schools had nothing but these portfolios, and some sent to him recently had to be returned within three years. More money ought to be spent in circulating these portfolios in the provincial towns, and they should be given to be retained by the schools as long as they were in existence, and should be bound so that the contents would not be destroyed. More generosity should be shown to Art teaching, and the persons who controlled it should be more in sympathy with it.

Mr. J. Ward said that he was delighted that Mr. East had given them such an excellent paper. Emerson had said that it was tradition more than invention which helped the poet to a good fable. They all must rely to a great extent on tradition. It was the soul of progress and development in Art, as in scientific and mechanical inventions, and in other things. It was very difficult to be original; to add a bit here and a bit there was, in general, the most that could be done. The country was now beset with faddists in the teaching of Art, who asked students to go back to the very first principles. From what he had seen of the works of the persons who asked them to go back to first principles, he should judge that they themselves had stopped at first principles and had not gone any further. (Laughter.) Many Inspectors of Art Instruction without Art qualifications were taking their cue from these men, and were inspecting drawing in elementary and secondary schools. These persons had got the ear of the County Councils, who admitted them to their meetings. The same persons also formulated schemes for examination. They might be acquainted with science or literature, but they knew nothing whatever about Art. One of these inspectors, called upon to prepare papers for a scholarship examination, said that the candidates must draw objects. About sixty children attended the examination, mostly from elementary schools. The box containing the object to be drawn was no larger than a cigar box, and, when the superintendent opened it, it was found to contain sixty specimens of narcissus with all the top petals crushed perfectly flat. These specimens were given out to the children, and they were asked to draw them. This was called "object drawing." They all thought that they would have had to draw some simple object, such as a jug or a basin. He (Mr. Ward) happened to see the inspector, who came from Whitehall, some time afterwards, and the inspector told him that the drawing required at the examination in question was the drawing of a "common object." He (Mr. Ward) replied that the narcissus was common only in one month of the year, and that teachers and students had been misled by the term, and that this was a wrong way to put Art education before the country. The inspector replied, "You are talking South Kensington. We do not care a rap about South Kensington. We only want the masters to teach drawing, so that it may help the students in their botany lesson." It was time that Art Masters spoke out against such fallacious methods of Art education.

Mr. Shelley said that he was quite in agreement with Mr. Beale as to the distribution of examples by the authorities at South Kensington; but he had himself secured, at different times of the year, a loan of examples for three months from the Circulation Department, and had got them renewed from time to time. He had, however, heard the authorities at South Kensington complain that gentlemen in the country did not seem to fully appreciate the examples, and that there was comparatively little demand for them. He rather suspected that there was some truth in this com

plaint. Art Masters should ask themselves whether they had made full use of the fine collection of material within their reach. Education, whether in Art or in any other subject, greatly consisted of observation. We learned by observing what other people had done, trying to carry on the tradition and going a step further. He thought that at one period they were fed too much on Italian Renaissance. He had a great love for it, but thought that at one period of the schools pilasters and scrolls were given to young people to draw from before they understood them, and there was seldom any explanation as to how these things were connected with some decorative scheme. He must say that although Art Masters were inclined to be pessimistic in their views of what the Board of Education did, there was now a much healthier tendency in the nature of the work. His idea was that the two things should go hand in hand, and that they should not say, "Take no note of Italian Renaissance, or other historic style: simply go back to nature." Let them take the two things together and try to get an intelligent appreciation of what had been done traditionally, at the same time observing nature and natural laws. It had been said that drawing must be Art, but he was rather of opinion that there was a kind of drawing which would be helpful to a scientist and yet not, strictly speaking, come under the head of Art. For instance, a mechanic or a plumber might be taught to do a certain kind of drawing which to him might be another means of expression. There were many things which a person could not possibly explain by words, but which could be explained by drawing. He had often found practical illustration of this, but though this was a kind of drawing which would be of use, they would be wise if they did not insist that it was Art.

Mr. Connabeer said that he had very much enjoyed the discussion, but was afraid that they were not keeping quite to the question. The remarks which had been made did not seem to apply in detail to the craftsman's work. He should like to hear expressions from gentlemen who were engaged in Technical Art in special neighbourhoods.

The Secretary said that he could perhaps put before the meeting an illustration which was rather pertinent to some points of the discussion. It sometimes seemed that, in order to obtain notoriety, it was only necessary to start something which was wild and extravagant. If it was sufficiently wild and extravagant a considerable section of the British public would be apt to look upon it with wonderment and possibly with admiration. The allusion which was made by Mr. East to certain statements made at a conference held early in the year had attracted the attention of Art Masters. He alluded to those which were made by Mr. Catterson-Smith. These were certainly of a remarkable character. Some twenty years ago, when he (Mr. Ford) was engaged in some literary work, he unearthed some passages from a Government blue-book, which contained the report of a Select Committee of the House of Commons appointed in 1849 to inquire into the constitution of the Government School of Design and to report thereon. It was well said by one of the witnesses before that Committee that the manufacturers required training as much as their employees, and evidence of that fact was furnished by the evidence of a Scotch manufacturer whose name would be found in the blue-book. This evidence seemed to show that Mr. Catterson-Smith's views as to the usefulness of the antique had not even the merit of originality, for this Scotch manufacturer had been before him. He would read a portion of his evidence: –

What do they teach in the —— School of Design?—I believe the highest branch is sculpture, and in making faces and so forth; what they call the Fine Arts. I do not see at all how it is to benefit us.

Do you think that the knowledge of drawing that they obtain there would not be beneficial to you?—No; but I think if they were put into a botanical garden, and left to go among flowers and trees and so forth, it would be a very great privilege for them for their mind to be exercised in the study of any sort of pattern.

You think that the sort of instruction they receive in the School of Design does not make them at all better qualified to work in your business?—No, the reverse. For instance, now if a young man goes into a place where there are a great many statues, there are men, feet, and other things disagreeable to look at. It is nothing uncommon to see the half of a man's face stuck upon a wall. I have seen a large horse's head stuck up in a very prominent place for people to draw from. I cannot see, in the nature of things, how these things can improve a man's taste; it takes away the beautiful ideas from a man who is going to draw patterns; I have put a variety of things into shawls, such as men and animals, but I assure the Committee that they were always a losing concern whenever I attempted anything natural.

You do not think that an individual drawing from these odd figures would acquire a great facility in sketching?—No, I do not; I think it takes away any sort of ideas a man has. For instance, if you look at the Schools of Design in France, and there are a great many (about 100) of them. Sculpture is but a secondary thing with them, with us it is the first and principal thing taught.

You have been in the Schools of Design in France?—No, but I have spoken to men who have been there.

* * * * *

What amount of subscription was raised in —— for the school?—I do not know; when I was asked for a subscription, I said, "No, the thing would never do any good, and it was no use to give away any money to a thing that would result in nothing."

In fact, personally, you know very little of the School of Design?—I know a great deal; that is, all the practical parts of it.

Have you visited it frequently?—Only once; that is quite sufficient for any practical man; he does not require to go month after month to see the workings of the thing.

How long were you there when you visited it?—About half an hour.

* * * * *

What did you see in —— School?—There were from 12 to 20 young men, I think, from 10 to 18 years of age, learning to draw from a sketch, rough sort of sketches, architectural drawings, and in statuary; some of them were drawing heads and arms, and so forth, which I do not think can improve the taste of anybody.

He had put this extract before the meeting because he thought it illustrated the attitude of a good many ill-informed men to-day.

Mr. Joseph Brown: I do not think that Mr. East could have found a better subject on which to

address a meeting of this kind than that which he has chosen, that is to say, the relation of the Art School to the workshop. Of course, it is a matter of history that, in the early Victorian period, Art had little or no relation to our manufactories. Such Art as was taught was taught in the studios of our painters and sculptors. The exhibition of 1851 showed how very bad the condition of Art was in this country in connection with the crafts and manufactures. This led to the establishment of Schools of Design. I suppose that they were called Schools of Design because no design was produced by them; but these schools did very good work. They certainly trained their students in accuracy of hand and eye. There were no special inducements then for students to continue their studies. The teaching was not made particularly interesting to them. It was very narrow and very restricted, and was confined entirely to classical and Renaissance work; but it made an undoubted difference to the art of the workshop. That is my view. But the masters took little or no notice of the manufactures in the district. Then came the introduction of examinations, and this, I am afraid, did not have very great effect in the direction in which Mr. East's paper would lead. I think that the students very often came for the examination at the expense of their proper Art training in relation to their work. But now a change is coming over us, and it would be well for us to consider our position—the position of Schools of Art with respect to the workshop. In some cases it is intended to substitute Schools of Art for the workshop. I do not think that this will be a general success. The work of Schools of Art is much better in design, but not so good in execution, as that done in the workshop. The workshop is the very best place to learn the technical processes, and the School of Art is the very best place to learn the artistic portion. Mr. East has said that we should consider from the very first the future of the student and the occupation which he is to follow. I do not quite agree with him on that point. I take it that there must be some first principles laid down before you can specialise properly. When a boy goes to an elementary or secondary school he is taught certain things, and all boys are taught the same things—reading, writing, composition, history, and such like things—and there is no notice taken of what the future of the youngster is to be. They are all taught general principles. And I think that Schools of Art must do the same thing. They must train their pupils in general principles first, and when they have done that they can begin to specialise in respect to what the future occupation of the student will be. The old apprenticeship system seems to have gone; manufacturers take very few apprentices. In the old workshop system a master was always the master of his craft. He knew exactly what to do and how to do it. He had a pride in his work, and he taught his apprentice in the best possible way, because he not only had a pride in his work, but he had a pride in turning out men who would follow him and be good work men like him. But that system has disappeared. The workshop has disappeared, and it has merged into the factory. A manufacturer does take apprentices sometimes, but he hands them to men whose interest it is certainly not to teach them, because they will only be rising up to be competitors with the men who have been asked to teach them. These men get neither credit nor money for the teaching that they give. Then the question comes: who is to do the teaching? And this is a very difficult question to answer. Schools of Art are certainly training the young people in the Art portion of their work, and, in some cases, training them in the technical part, but this must be in a very limited sense unless the system is very much more widely extended than it is at the present time. Of course they tell you that, under the apprenticeship system, the master was getting cheap labour, and possibly there is some truth in that. A boy could be taught a trade in three years, but it is doubtful if he could be taught in three years so that he could get a living at it. If you take a boy into a School of Art and teach him, you will probably teach him his trade, but you will not teach him how to get a living at it. By the old apprenticeship system a boy was kept at one job until he was perfect in it, and he repeated that job until he could do it, not only skilfully, but quickly, and one job was built on another until the whole range of his work had been mastered. When the boy had spent seven or eight years in that way he would, in all probability, be able to get his living. But if you pass him through as rapidly as possible, and pass him on from one process to another, the chances are that he will have to devote a much longer time to get that skill and that rapidity which are necessary for earning his living. Now the ideal, I think, that we should have in view would be a union between the School of Art and the workshop. The School of Art should teach Art—should teach such processes as are now artistically taught or required to be artistically taught; but we should not try to set up a municipal workshop in rivalry to the manufacturer. Then we should try to consider what kind of Art is necessary to the crafts practised in the neighbourhood of our schools. It has been said that drawing is not Art, and it has been said that drawing is Art. Both cannot be correct; but there is a great deal of drawing taught which has very little bearing on Art as a general subject. You may teach a boy or girl to draw Renaissance ornament; you may teach a pupil to draw from a cast with perfect correctness, but as far as his Art education is concerned he has learnt very little. The question as to the value of our national and provincial museums, and the objects therein stored, has been mentioned: but I think that unless, in Art education, what one might call the literature and principles of Art go hand in hand with the technical side of Art, our teaching can be but of little use. What we want is an intelligent training for the young in the principles and practice of

Art, and their application to the industry of the nation. It will not do to lay down any hard and fast line as to what we shall do; but I think certainly that we ought to see what has been done in the past and apply that as far as possible to our present needs. If we were going to raise only artists we might go on something like the lines which are being spoken of to-day as new lines—the teaching of the drawing of natural objects and specimens. But we have something other than that to do. The larger portion of our students are never going to be artists, and not even designers, but they are going to be something in which it is supposed that Art training will be of use. That is what we have to consider, and I hope that that will be borne in mind. We have not got to make picture painters, we have not even got to make all of them designers, but we have to teach them something which will enable them to intelligently follow the profession or trade or craft which they are about to follow. There is another thing that is of equal importance. We should teach something of the principles of Art to those persons who purchase the products, and those who have them made. (Loud applause.)

The Chairman: The next paper practically deals with the same subject, and therefore those members whom we should like to hear and who are desirous to speak will have an opportunity later.

Mr. East: May I just say that I intended you to take it that the general principles should be taught first, and then we should specialise. I think that if my paper has only done one thing, that is, if it has only given us an opportunity of listening to the excellent speech of Mr. Brown, it has brought out just the one thing that I wanted brought out. I must say that I have listened to Mr. Brown's speech with attention, and appreciate and agree with everything he has said.

Objective and Subjective Painting.

"MANY students say to me: 'Oh, I cannot compose a landscape in my studio. I can never do anything from imagination.'

"Of course you cannot, if you have not first learned your grammar. Study hard and carefully the great book that nature lays open before you. If you cannot remember how high a fence ought to be, study fences till you know. Make careful notes of colour, relations in foliage, ground, and sky. First acquire technique; know how to express, and then, if you have imagination, there is no reason at all why you should not paint a good landscape in your studio.

"True, some artists will never be able to paint a landscape unless they are 'on the spot'—that is, unless they have it before them. These are what I call the objective painters.

"To me the highest work is the subjective or imaginary. Inness, Corot, and Millet were of this school. No more careful students of nature ever lived: they knew their grammars perfectly, but all their interpretations were coloured with the exquisite poetry and feeling of their wonderful imaginations. Millet did not wait to hear the Angelus ring in order to catch those peasants in the potato field the moment they bowed their heads in prayer. He had doubtless seen them do this, and he remembered. But no one knows how many individual studies he had made of peasant figures in various attitudes till he knew every turn and poise of their rugged anatomy. The pathos of their lives we know too; and none but such a soul as his could ever have given it such strong expression.

"The objective artist who lacks fine discrimination and refinement is apt to become 'brutale' in treatment. That is the trouble with France. From too much realism they have become 'brutale.'

"True, there is danger occasionally of going to the other extreme, and becoming sentimental. For instance, Jules Breton paints peasant girls with the faces of dainty village maidens. They make pleasant pictures to look upon, and are nice for our walls at home; but they are not true types. I never saw any such faces among the French peasantry. The real peasants are so heavy, coarse, and stupid of countenance that they seem very little above the animals whose places they so often take in drawing loads and dragging the plough.

"Such were the faces Millet saw; but he did not take the young girl about whom there was nothing especially characteristic. He took the man or woman of forty-five or fifty, when toil had bent the back, and life had written its touching story in both face and form, and he made it into a poem of such dignity and pathos that he who ran could read.

"Millet had sentiment without sentimentality, Bouguereau had sentimentality without much sentiment. His peasants have delicate skins and pretty faces; and, like those of Jules Breton, are thought by many people the only sort to hang in drawing-rooms. Still both these painters have many fine points which the student might study to advantage."

BRUCE CRANE.

WHEN there are to be several illustrations to an article, one may choose the minor incidents for portrayal; but when there is to be only one, that one should represent the key to the situation; or else the drawing should express in a general manner the ruling idea of the story. Above all other things, the work of an illustrator should be truthful, or at least it should seem to be. It is often some little characteristic touch in an illustration that gives it its special value as such: the pattern on a piece of lace, for instance; or the soiled finger-marks near the knob of a door; or the knottiness and leathery texture of an old man's hand.

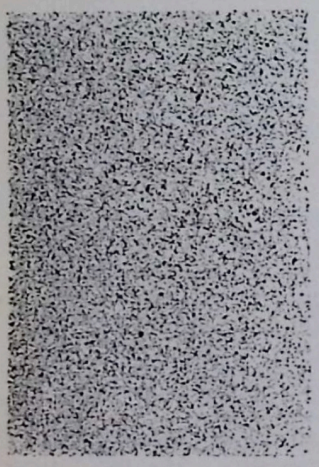
Pen Drawing for Reproduction.

MIXED DRAWINGS.

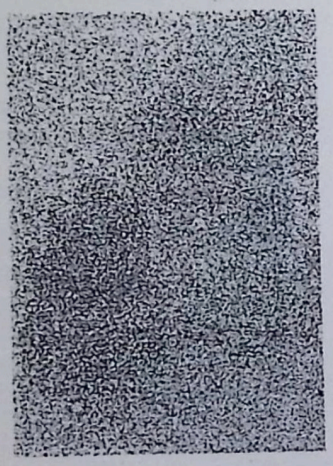
By Herbert Cescinsky.

In the following series of articles it is presumed that the student has acquired some proficiency in making simple drawings—either in wash, black and white, or line—for process work, and has profited somewhat by the articles which appeared in the earlier numbers of this magazine.

Generally speaking, any drawing can be reproduced by one of the photo-mechanical processes



Example of Single "Splatter" Work, with One Mask.



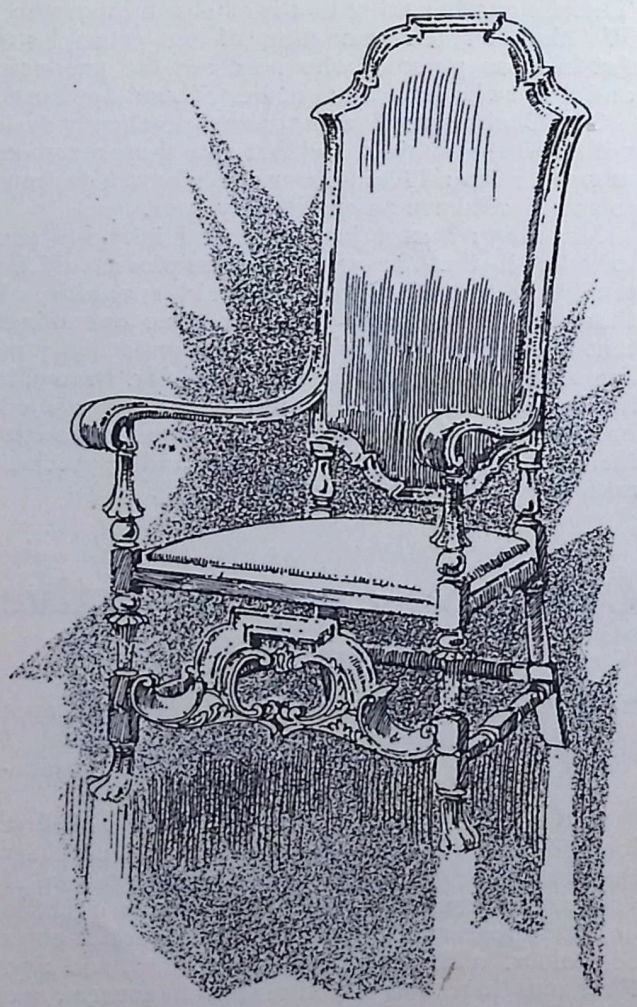
Example of Double "Splatter" Work, with Two Masks.

—zincotype, half-tone, photogravure, or collotype—but for commercial purposes only the two first are admissible. Photogravure being a deep surface process—where the lines are engraved *in* the plate—is slow and costly to print. With collotype—which is printed from a rotted gelatine surface—it is a pure lottery whether a good print be obtained or no; generally three out of four have to be discarded.

Where, therefore, blocks and letterpress have to be printed at the same time the line and the half-tone are the only two processes which can be used. A line drawing, when transferred to the sensitised zinc block and etched in the acid bath, supplies its own printing surface, that is, a series of lines or dots. With wash drawings it is necessary to break up the tones into fine squares. This is done by means of a glass screen scored across with a number of fine lines at right angles to each other, placed in the camera. The fineness of the screen used—varying from 100 to 300 lines to the square inch, technically termed one hundred or three hundred line screens—is a question of price and the reputation of the engraver. The finer the screen the more careful and therefore the more expensive must the printing be. The blame for bad results is often unjustly cast on the engraver, when it is the printer who is in fault.

A first-class process block demands careful printing, good ink and the best paper, and without these good results cannot be obtained.

In these articles a number of aids to expression in line or wash work will be explained, and, if the directions are carefully followed, it will be found that new effects can be attained, at a saving of labour, and the resulting drawings should give good process blocks. The student must be cautioned at the outset, however, that these hints are simply for the improvement of technique. An easy and graceful drawing facility is very desirable, in the same way as a command of language is useful to



Sketch, showing use of "Splatter" Work, by Herbert Cescinsky.

convey ideas; but the ideas must exist beforehand, or the command of language results in verbiage; so a facility of expression in drawing is idle with-

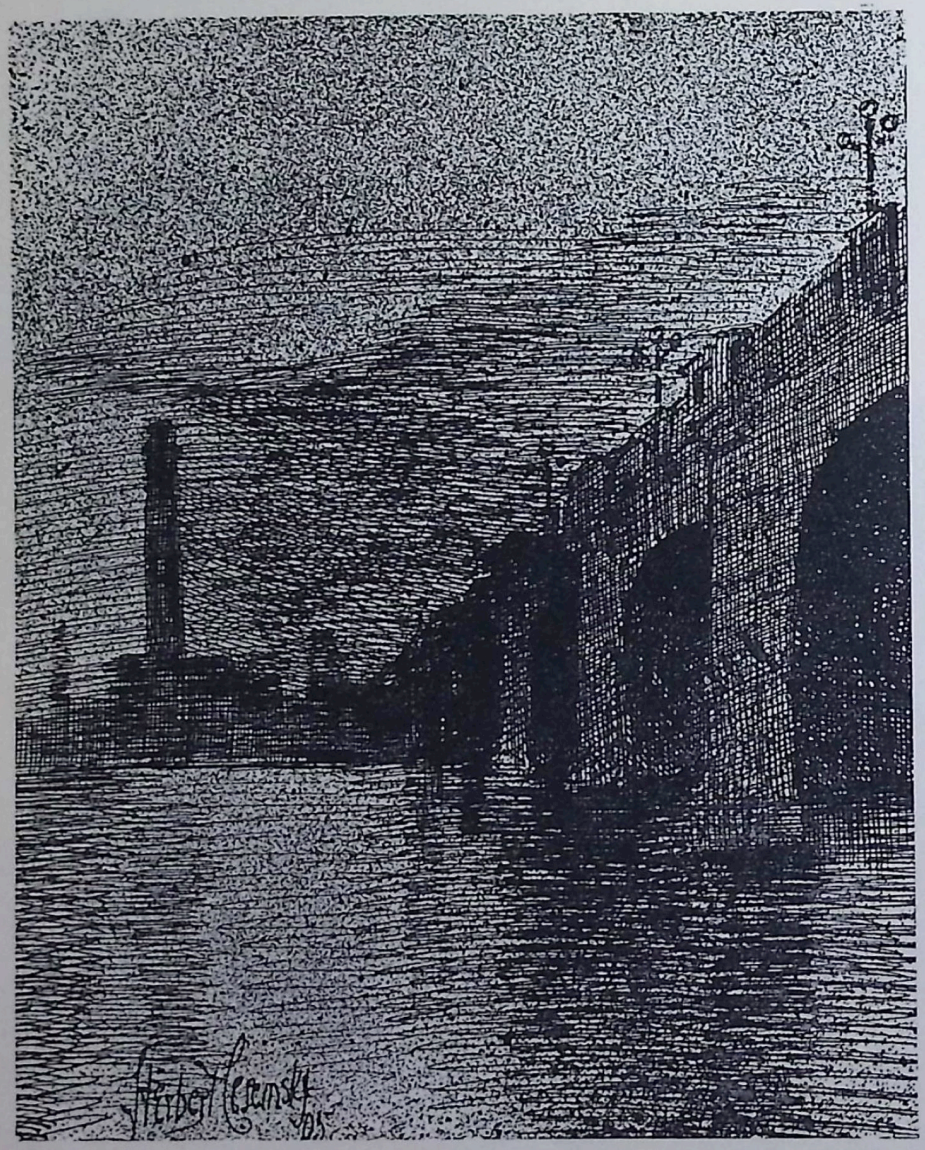
PEN-AND-INK DRAWING · SHOWING USE OF "SPLATTER" WORK · BY HERBERT CESCINSKY

out something expressed. A pretty sketch may be absolutely meaningless unless a definite artistic idea be conveyed.

One of the most useful adjuncts to line drawing is "splatter" work—the technical name for the dotted effect on the drawings reproduced in this number. This is obtained by inking the bristles of a stiff toothbrush, turning it downward on and inclined to the drawing about a foot from the surface of the paper, and with a match stroking the bristles *towards* the operator. To clear the brush of superfluous ink, experiment first of all on a sheet of waste paper. Never stroke the bristles away from you or the result will be a "splattered" shirt-front. This work should, as a rule, never have a greater reduction than to two-thirds of the original. The coarser the bristles the larger the spots will be.

In the sketch from the Thames Embankment at night, here reproduced, splatter work is used as a quick method of expression for rough sketching purposes. The sketch is roughly scribbled in on Whatman paper, and the splatter tint used to assuage all irregularities.

In the full-page drawing it is necessary to limit the field to be splattered, and this is done in the following way :—Take a piece of tracing paper the size of the sketch, and mark and cut out the spaces where required. The tracing paper then acts as a mask, and protects the remainder of the drawing from the shower.



ROUGH SKETCH FROM THE THAMES EMBANKMENT SHOWING USE OF "SPLATTER" WORK BY HERBERT CESCINSKY

Two examples are here given of single and double splatter work ; the latter is done with two masks, the one used first for the square patch, and the second exposing only the place where the darker tint is required.

For cloud and other delicate effects it is desirable to nearly exhaust the ink in the toothbrush, as when fully charged it is likely to produce large spots, which mar the effect.

The sketch of the chair shows how splatter work can be exactly localised, and even used to form patterns if necessary. HERBERT CESCINSKY.

Pen-and-Ink Drawing.

DECORATIVE SEED VESSELS.

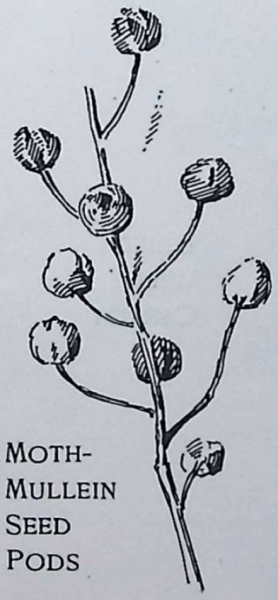
By E. M. Hallowell.

We assume that the student in pen-and-ink, having discovered some of the many difficulties to be surmounted in his work, has by this time risen to the occasion, and, finding even in a frail flower a foeman worthy of his steel, he has determined to conquer at any cost.

It is to be hoped that this mental attitude is upheld by the physical, and that on these wintry days he goes forth on his brisk walks along the highways with his eyes open for material for work, though no flowers reward his country rambles.

The violet is obtainable nearly all the year round. Early in April its blue eyes open, and near the middle of November the writer has gathered its blossoms on the same hillside which saw its first awakening. The dandelion, too, may be spoken of as a wild flower to be found early and late, and very useful to the designer in pen-and-ink or other mediums, both in its flower and feathered seed-balls.

But we know that there are but occasional chances in these wintry months when a blossom shows its head above the frost-blackened earth; and it is the purpose of this paper to call attention to a few of the many other interesting forms in the plant world which may be used in decorative and illustrative ways by the student of flowers and of pen-and-ink. We will suppose then that after a ramble in the fields and woods, meeting an occasional snow flurry, or breaking a thin skim of ice in the puddles, we have returned with our trophies. We have found in the fields some dried wild carrot, the seed-vessels of the moth-mullein, some pods of the Indian mallow or velvet leaf, the clustered burs of the burdock, and the long seed



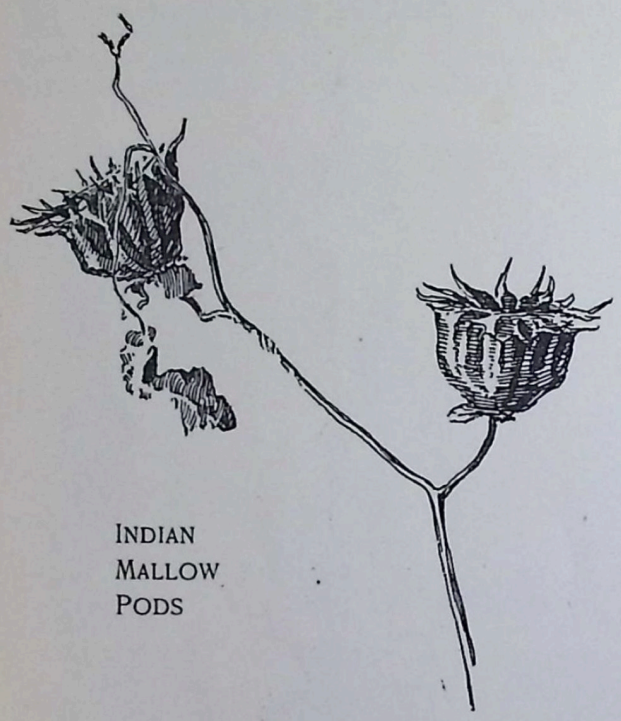
Moth-Mullein Seed Pods

Burdock Burs

Curled Dock

stalks of the curled dock—a little brown collection, and at first glance not very beautiful.

I would ask the student to make a few little pen studies of these; and, as he does so, a new interest



INDIAN MALLOW PODS

will attach itself to each, and he will find a picturesqueness all their own about the dead twigs and sticks. Why, indeed, should this not be? The pods and burs can scarcely fail to be less attractive than the flower, for their purpose is that of cradling the seeds of next year's plants.

Truly says Fra Lippi,

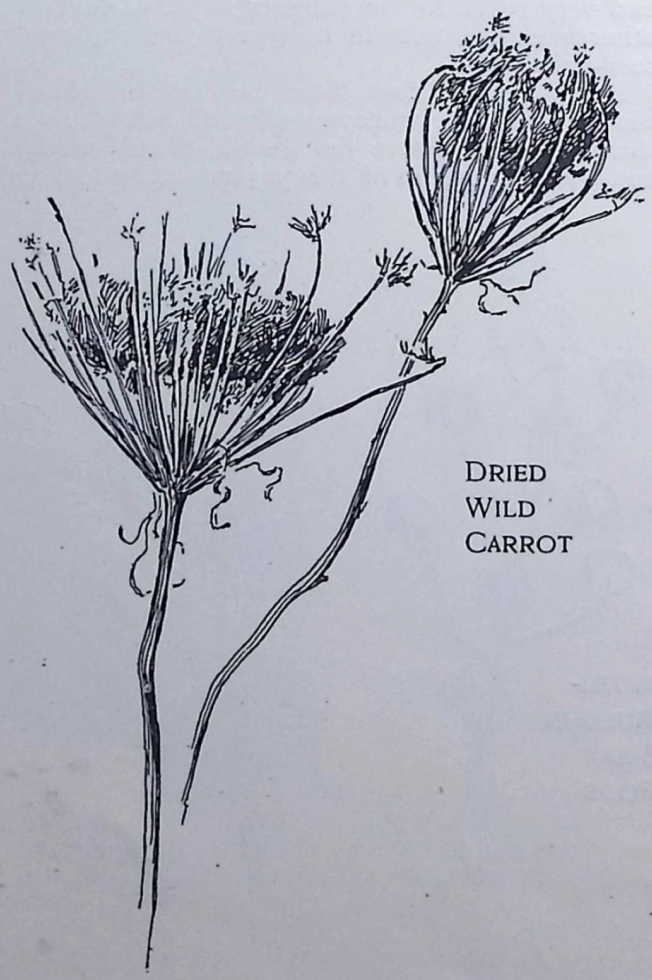
> We're made so that we love
> First when we see them painted, things we have passed,
> Perhaps a hundred times, nor cared to see.

Not only when we see them painted, but when we paint or study them ourselves, is this the case. The endeavour to depict successfully those stiff and dried wild carrot blooms, the decorative shapes of the mallow and moth-mullein seed-pods, the vigorous colour of the curled dock—all will inspire a new interest and new thought.

After the study comes the application. Is there not enough interest in these burs of the burdock to convert them into some design? We will try it on a cup and saucer. Instead of one of the conventional little flower designs of wild roses or forget-me-nots, excellent in their way, but somewhat hackneyed, let us take a colour scheme of cream, gold, and brown, and with a buff or cream background, and some hints of gold in the handle and edges, we will turn the brown burs into a decoration. It will perhaps be well to use in the border a form that shall in some slight measure suggest snow or ice, as being consistent with the design, and I trust we shall find that our subject rewards us, when completed, for the variation from more usual designs.

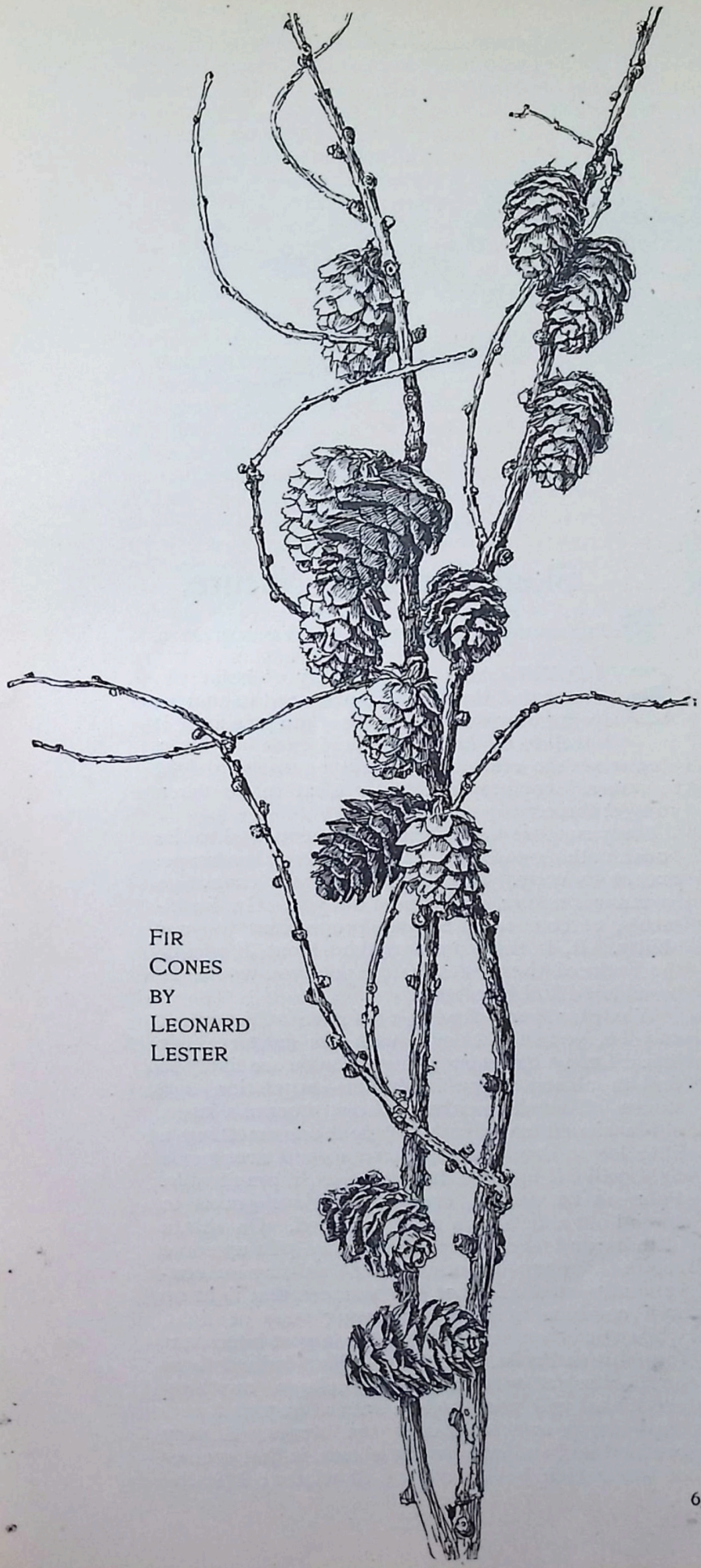
Space forbids the application of other ideas; but I am sure that the decorative forms of these remains of so-called "weeds" should bring to the minds of the pen students many a suggestion for applied designs; for borders, headings, book-covers, or any one of the many uses to which such subjects may be put.

And now a word concerning technique. It has been the main purpose of this paper to endeavour to arouse the interest of the student in the subject before him, regardless of the question of lines; since we must all agree that without an intelligent understanding the best technique is worse than useless. The first inquiry of a student of pen work is generally, How shall I make my lines? And to such a question there can be but one answer: Make your lines in whatever direction you can best express the subject before you; try experiments; take the lines horizontally, vertically, in what direction you will, and see which way, *to you*, best expresses the surface or texture with



DRIED WILD CARROT

which you are dealing. In this we are supposing the student to be reasonable and intelligent, and that he will not persist in any method simply to be



FIR CONES BY LEONARD LESTER

peculiar or unlike his fellows. Use only the method which you conscientiously believe to be the very best, and use it to express your best thoughts in your best way; only so will there be any real progress in your work. Pen-and-ink is essentially a medium for the expression of the individual. Take any number of our noted illustrators—Phil May, Fred Pegram, M. Greiffenhagen, Raven Hill—and see how entirely individual and unlike the others is each man's work.

It is, however, often helpful, especially in elementary work, to learn something of the points to be avoided; so we may mention a few: Make the lines of your drawing strong and full of vigour, but not too heavy; let each line stand for something; do not fill your work with meaningless little dots and dashes, hoping they will lend artistic grace to it. They will not do so; and it is better to say what you have to say simply, even crudely, than to attempt that which is beyond you.

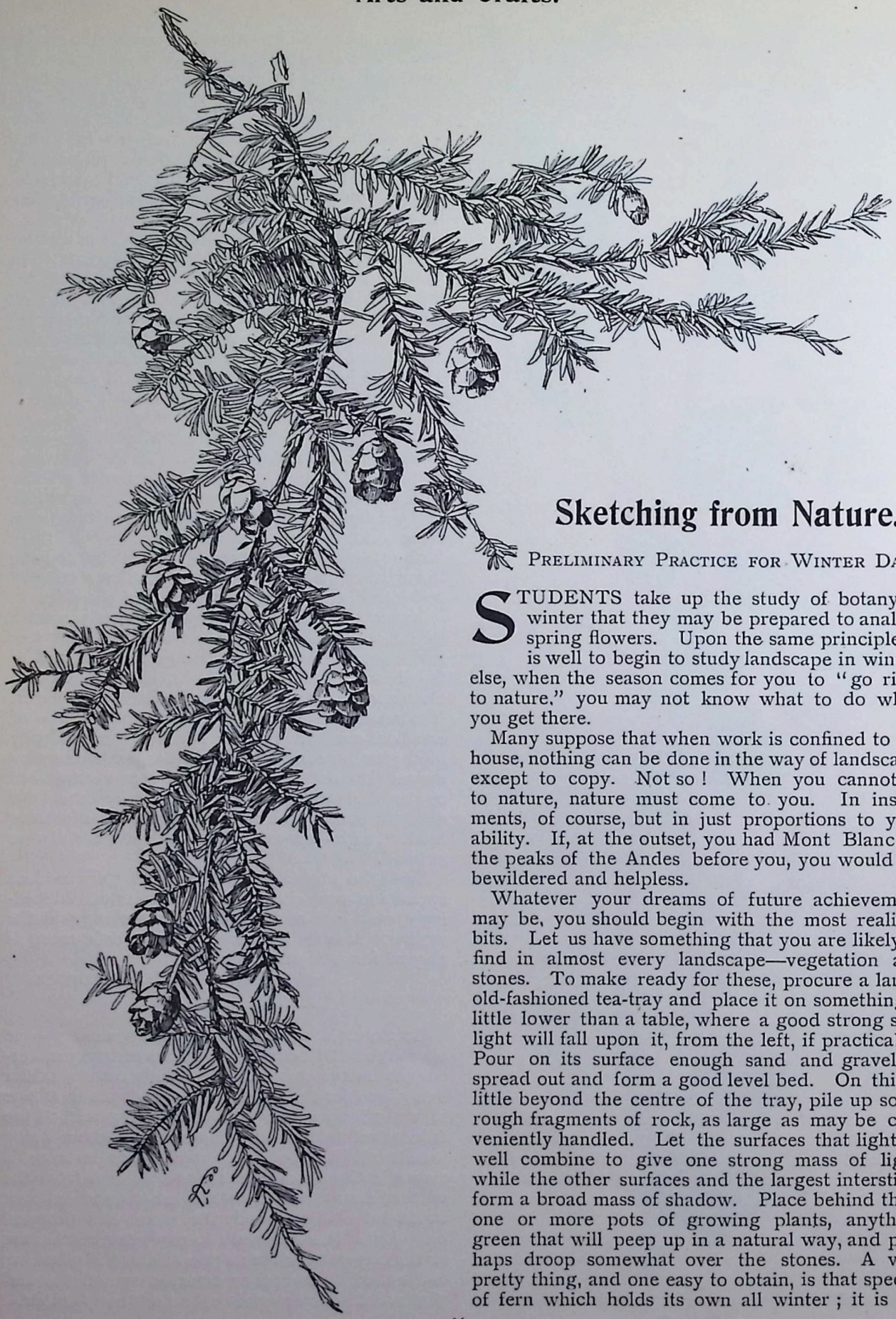
Like all other good work, that with the pen must progress from within, outward. As we study and develop our powers of observation, as we practise with pen-and-ink and other mediums, as our artistic sense deepens and our minds refine, there will come into the work some expression of these qualities which can never be gained by copying the style of another or by trying useless "effects" and introducing blots and purposeless shadows.

Never allow the materials with which you work to be a hindrance. Pen-drawing calls for few tools; let such as are needed be plentiful, and of the best. Bristol-board, from its firmness and clean surface, is always more desirable than paper. It is better not to get it too heavy, and let it be of excellent quality. If your ink shows a tendency to clog or turn brown, try another bottle or a new make. Do not be hampered by possessing but one penholder, into which you put by turns your different pens. One needs at least three or four holders, with their respective kinds of pens, always at hand.

With the utmost precaution, one's work seldom appears in reproduction without a certain thickening up and loss of brilliancy, disappointing to the worker. It is well, then, to leave as little cause as may be for such difficulties.

E. M. HALLOWELL.

GOUACHE is worked in much the same way as oil colour. Of course, this means ordinary water-colours mixed with chinese white, body colour being used for the lights. The great disadvantage in using body colour is that on being rubbed the chinese white falls off; sometimes without being touched it will peel and spoil. For instance, a very effective moonlight scene was sent from the office of a magazine to the workshops, and before it could be photographed, the moon had dropped off. But if it is necessary to paint in gouache, use as thin layers of white as possible, and if white has to be used to correct an error, scrape off the surplus paint before applying the pure body colour.



Sketching from Nature.

PRELIMINARY PRACTICE FOR WINTER DAYS.

STUDENTS take up the study of botany in winter that they may be prepared to analyse spring flowers. Upon the same principle, it is well to begin to study landscape in winter, else, when the season comes for you to "go right to nature," you may not know what to do when you get there.

Many suppose that when work is confined to the house, nothing can be done in the way of landscape, except to copy. Not so! When you cannot go to nature, nature must come to you. In instalments, of course, but in just proportions to your ability. If, at the outset, you had Mont Blanc, or the peaks of the Andes before you, you would be bewildered and helpless.

Whatever your dreams of future achievement may be, you should begin with the most realistic bits. Let us have something that you are likely to find in almost every landscape—vegetation and stones. To make ready for these, procure a large, old-fashioned tea-tray and place it on something a little lower than a table, where a good strong side light will fall upon it, from the left, if practicable. Pour on its surface enough sand and gravel to spread out and form a good level bed. On this, a little beyond the centre of the tray, pile up some rough fragments of rock, as large as may be conveniently handled. Let the surfaces that light up well combine to give one strong mass of light, while the other surfaces and the largest interstices form a broad mass of shadow. Place behind them one or more pots of growing plants, anything green that will peep up in a natural way, and perhaps droop somewhat over the stones. A very pretty thing, and one easy to obtain, is that species of fern which holds its own all winter; it is the

"Aspidium acrostichoides," sometimes called the Christmas fern. As we are accustomed to see this growing up by stones, the combination may be made to appear perfectly genuine. The more depth of green you can get the better; and this may be increased still further by having a piece of olive cloth or unglazed cambric stretched behind it.

Now you are ready for work, and I would advise the use of oil colours. Put a sheet of Academy board on your easel, which must be placed about as far from the study as the size of an ordinary room will allow. The study is probably more than large enough to cover the board; and this is well, for you want it to appear like a bit of natural scenery without betraying its limited character. Sketch all in broadly with a lead pencil, being sure to locate the central mass low enough on the board to make the bed of sand cover the foreground before the edge of the tray is suggested. Let the green mass extend itself as it will to the top of the board. When you are ready for colours, take for the shadowy depths of the green plenty of raw umber, with some Vandyck brown and ivory black in the darkest places. If the olive screen is noticeable, use yellow ochre and blue black for the local colour. Lay in the entire green mass with a warm brownish tint; raw umber is sure to be serviceable for this purpose, and sometimes even warmer, deeper browns may be added. All masses of green must be painted in this way, securing the shade within first. It is only on projections that actual green shows itself. To make these stand out—extend themselves—give them more or less brightness according to the amount of light they catch. It is easy enough to make lateral projections, but those that come forward directly towards you, foreshortened as they must be, those are the ones that require skill. If you have kept your greens in reserve for them, a few of the right kind of touches will bring them out. In making pencil drawings of different kinds of plants or foliage you know how you have to study the character of your touch. In using colour this is quite as important. To get an idea of what you want to make your brush do, lean back and regard your model with partially closed eyes, so that you lose sight of all minutiæ; note the forms that the green projections assume, and try to imitate them on your palette before you venture on the shadowy relief that you have prepared; for if you should, by experimenting, cover too much of it, then you have nothing but flatness, and your only remedy is to wipe out the green and begin over again.

As to the kind of green to use, all the prepared chromes are very blue and crude; raw Sienna gives them warmth and transparency, and yellow lights them up. King's yellow and chromes are useful. Indian yellow is the richest and warmest of all the yellows, and may be used with the pre-prepared greens or with the blues; with Antwerp blue it produces a very deep, brilliant green. If you use Prussian blue, let it be in very small quantities. For the cool half tints use terre verte and madder lake, adding Naples yellow and white for the lightest tints required. Use umbers for stems, with white and Naples yellow for ordinary lights. Of course, you may have russet or reddish stems that need Siennas, lakes, or cadmium.

Preserve the roundness of stems by keeping the strongest light and the darkest shade a little inside of the outlines, which should be cool and broken, blending with the atmosphere. Do not work anything up minutely; when you have succeeded in getting a strong general effect that does full justice to both light and shadow, without compromising either, you may go to the stones. If you learn to paint stones that look like stones you may be well pleased. There are people go on all their lives painting feather-beds and roly-poly puddings when they think they are painting rocks and stones. If your specimens are grey or brownish, use umbers and black for the shades; Naples yellow, black and white, for the lights, with terre verte and cobalt for the half tints. The deepest interstices need Vandyck brown and black. If you have rough angles to deal with lay the colours on with a palette-knife, passing it, suitably charged, in whatever direction the surfaces tend. Keep a paint rag ready to wipe the knife whenever you want a decidedly different tint, and when a happy stroke or turn gives the true character of the stone, even if it is not a facsimile of that particular portion, as long as it is consistent with the general distribution of light and shade, let it alone. You can over-manipulate with a knife as well as with a brush. The advantage of using a knife is, that it will, if handled dexterously, produce peculiar stone-like surfaces quite unattainable with a brush. For roud, smooth stones a brush may be preferable; but when you find that a knife gives the better texture, use it, whether on stones or anything else. Sometimes, after massing with a knife, high lights may be touched effectively with a brush. The sand and gravel may be painted with a large, flat bristle brush, or with a knife; the latter would be preferable if you were experienced in using it. If a warm tone is called for here, use Caledonian brown with a little black in cast shadows, and Naples yellow and white for lights; then terre verte and madder lake for half tints. If the tone is cold, let the black and white predominate, and add cobalt.

Leave everything broad and bold; it is not for close scrutiny. Now you have your picture! Stand well back and compare it with the real objects—if its general character is the same you are to be congratulated.

For another study, imbed in the sand a good-sized piece of looking-glass, and cover the edges cleverly with irregular scatterings of sand and an occasional dry, broken twig. Now you have a pool in which the stones and the green above may be reflected, if rearranged with that view. Use the same colours for reflections that you do for the objects; then with a broad bristle brush, containing a little light neutral tint, go over it with a few gentle horizonal strokes to give a transparent, glassy surface.

A great deal of excellent practice may be obtained

from these simple objects, and it can be applied directly to foregrounds and near-by bits when the time comes for outdoor sketching. Indeed, if you have fully mastered these things, you will feel quite at home with much that you will meet with in studying landscape.

In many places one may sketch from a window. Trees in winter afford fine practice in drawing. Never can their branches be traced out so well. Then there may be some quaint old roofs and gables. If you cannot get a suitable foreground—and you are not very likely to when looking from a window—throw across a large spray or vine, or a flowering branch, if you can get it. Perhaps it is a snow scene that presents itself; and very commonplace objects look picturesque when half-snowed under. For studies of this kind water-colours are much more appropriate than oil colours. If you attempt to paint snow leave very little pure white; you want all the pearly tints and plenty of shadow. Of course, the sky is likely to be grey rather than blue.

H. C. Gaskin.

London County Council Appointments.

We understand there are at the present time several vacancies, and we give some particulars of salaries.

Drawing.

Provisional Junior Teachers.—First year 8s., second year 10s., third year 12s. 6d., fourth year 15s. a week. The question of the future appointment of provisional junior teachers of drawing is under consideration.

Junior Peripatetic Teachers are appointed for a number of sessions not exceeding five in any one week, and are paid at the rate of 5s. a session. Provisional junior teachers are eligible for appointment as junior peripatetic teachers, but only, as a rule, if possessing, as a minimum, the art class teacher's certificate.

Peripatetic Teachers are appointed for a number of sessions not exceeding five in any one week, and are paid at the rate of 8s. a session. Candidates are required, as a rule, to possess the art master's certificate, to be capable of teaching clay modelling and elementary design, and to have had some experience in teaching.

Permanent Teachers.—Candidates are required, as a rule, to possess the art master's certificate, to be capable of teaching clay modelling and elementary design, and to have had some experience in teaching. Teachers are required to work 27½ hours a week. These may be made up as follows:—Mornings 9 to 12, and afternoons 2 to 4.30; or mornings 9.30 to 12, and afternoons 2 to 5. The scales of salary are:—Men with the art master's certificate, minimum £175, annual increase £5, maximum £200; women with the art master's certificate, minimum £125, annual increase £5, maximum £150.

Manual Training in Woodwork and Metalwork.

Provisional Junior Teachers.—First and second year 5s., third year 12s., fourth year 16s. a week.

Junior Assistant Instructors.—£60 a year, with increase of £5 at the end of the first year.

Assistant Instructors.—Minimum £80 a year, annual increment £5, maximum £100.

Instructors.—Minimum £100 a year, annual increment £5, maximum £155.

Special Instructors.—(*a*) *Ordinary Schools.*—(i) Instructors in science and art subjects (Divisions II. and IV. of the Board of Education regulations), 4s. for one hour, and 6s. for two hours.

(ii) In science and art subjects principal instructors receive 10s. 6d. per evening of about three hours, and assistant instructors 7s. 6d.

Manual Training Instructors.—4s. per evening of two hours for the first two evenings they are engaged under the terms of their appointment as instructors in day classes, and 5s. per evening of two hours for any additional evenings beyond the first two.

Wood Carving Instructors.—5s. per evening of two hours.

Preliminary Mechanical Drawing Instructors.—5s. per evening of two hours.

Metalwork Instructors.—Engaged in the day schools are paid 4s. per evening of two hours for the first two evenings they are engaged under the terms of their appointment as instructors in day classes, and 5s. per evening of two hours for any additional evenings beyond the first two.

Repoussé Metalwork Instructors.—5s. per evening of two hours in ordinary schools, and 7s. 6d. per evening of about three hours in science and art centres.

Sheet Metalwork Instructors.—5s. per evening of two hours.

For qualifications required and conditions of appointment to be fulfilled, see M.T. Forms 17 and 18, which can be obtained upon application to the Executive Officer, London County Council Education Offices, Victoria Embankment, W.C.

It is one of the advantages of decorations in encaustic, that, when properly done, they form an effectual preservative against damp.

Gold, silver and other lustra colours, if introduced with discretion, may add considerably to the decorative appearance of pyrogravure; but it is safest to restrain the inclination to employ them, for gaudiness instead of richness may easily be the result of their addition. A rich effect can be given to floral designs by burning in the outlines doubly, and then gilding the narrow space between the two lines; but in this, too, we advise moderation.

To clean a delicate relief or statuette in plaster, the best way is to give it a coating of warm starch applied with a soft brush. The starch, when it dries, peels off and takes all dust and grease along with it.

WINTER · PEN DRAWING
BY J · E · MEEKER

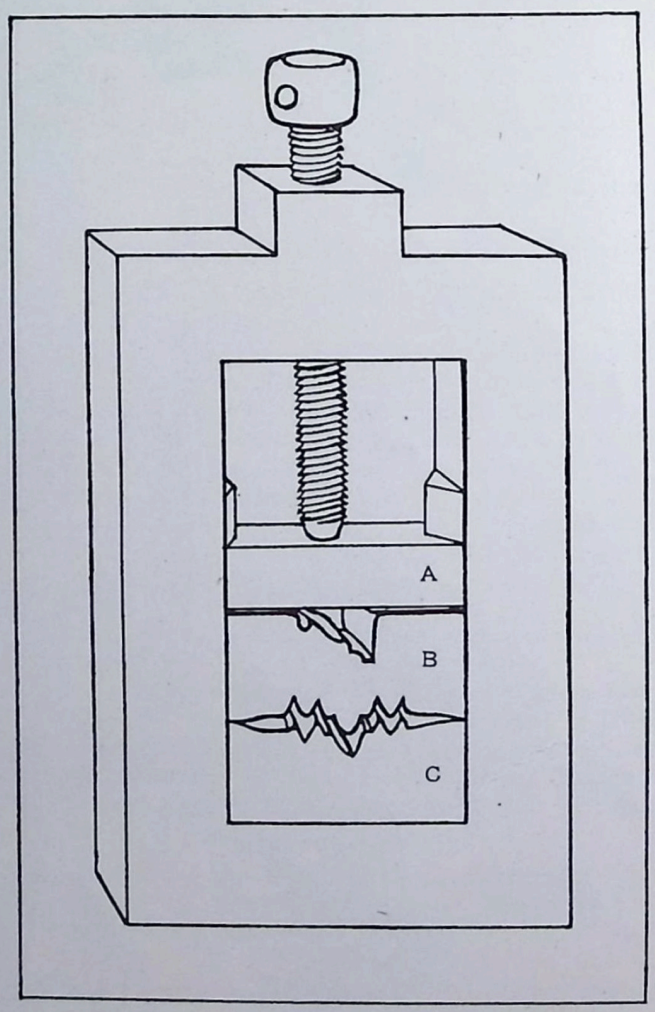
Metal Work.

By HERBERT J. MARYON, late Director of the Keswick School of Industrial Arts.

II.—Mouldings.

AMONG the many difficulties which beset a craftsman who would carry his work further than is usually attempted without the aid of expensive tools, is that of producing suitable mouldings with which to emphasise or soften the contours of his work. Yet this is not so impossible as may appear at first sight. A little ingenuity will suggest many methods of utilising ordinary workshop tools to this end.

Perhaps the simplest form of moulding is that produced at the edge of a piece of sheet metal by folding it over upon itself or over a wire, the turned-down piece then forming a little border or moulding. This folding of the edge is produced by the help of a "turning-over" tool, which is a piece of iron or steel, measuring perhaps 3 in. by 2 in. by $\frac{3}{16}$ in. thick, with rounded edges. These are filed to thicknesses corresponding to the various wires to be used. Thus one long side of the tool will be left to the full thickness $\frac{3}{16}$ in., the other perhaps thinned to $\frac{1}{16}$ in., one end will be $\frac{1}{8}$ in. thick, the other rounded for use on curves, but the same thickness. Should the moulding desired be that above mentioned in which the metal is just folded upon itself, the tool is placed in the vice with its thinnest edge upwards and the edge of the metal bent as far as possible over it with a mallet. If the moulding be on a straight edge, this first bending may, however, be produced in another way, by clamping the edge of the metal in a vice between two rectangular bars or pieces of angle iron, the whole length of the projecting metal can then be bent down at once. The metal is then held upon a smooth surface—a flat-topped stake or even on the bench—with the bent piece projecting upwards. With a little care this may be tapped down quite evenly, and the moulding is complete. Should it be desirable, however, to hide the actual edge of the folded part, proceed as follows :—Turn the piece down as above directed, but towards the side which will not be seen when the work is completed. When the edge has been tapped down evenly, place the work with the folded edge downwards on a flat steel stake, and, with the hammer and a piece of boxwood shaped like a square-ended repoussé tool, or, if the metal be thick, with a similar steel tool, press down to the stake that part of the metal which is a little further from the folded edge than to where the part turned under extends. The result will be a ridge all along the edge, which is the effect desired. Should a larger moulding be required, the metal may be folded over a wire, which may itself be of almost any section. It is important that the correct amount of metal should be allowed to properly cover the wire. Too much is worse than too little. The rule is—allow three times the diameter of the wire. Thus, in preparing the metal to receive a $\frac{1}{4}$ in. wire, scratch a line very lightly with the compasses $\frac{3}{4}$ in. from the edge and turn over from there. Tap the metal well over the turning-over tool, forming as much as possible of the hollow required for the wire. But with as



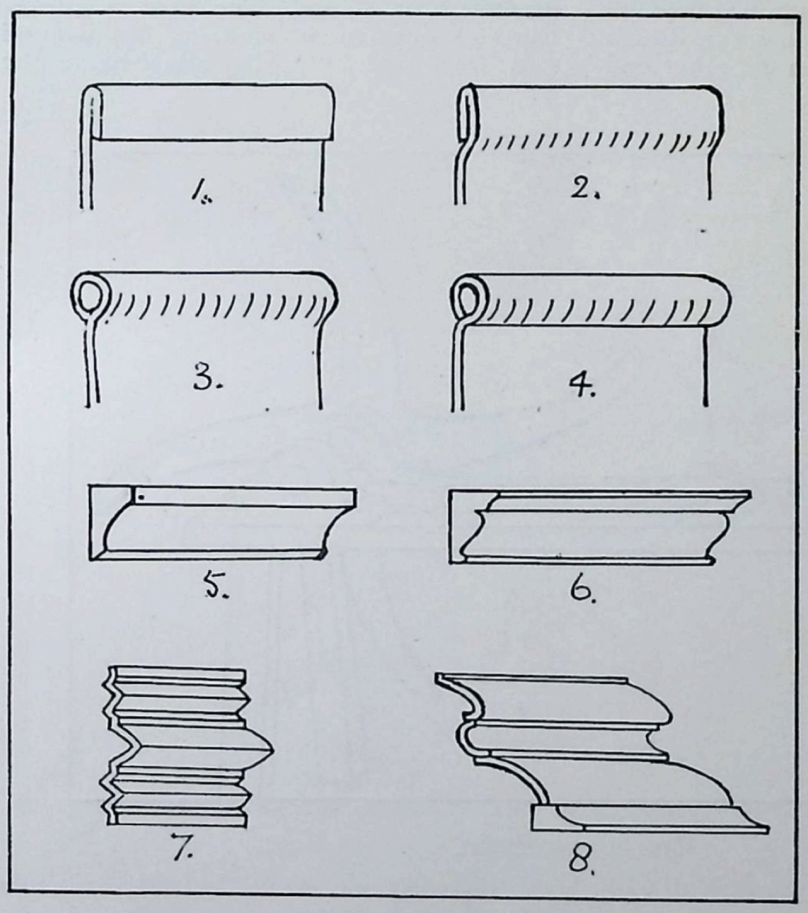
THE DRAWSWAGE.

few blows as will do the work, for if the metal be hammered very much it will crack. Now rest the metal on a smooth piece of lead, hard wood, or on a flat stake, and hold the wire into the hollow with pliers while the edge of the metal is tapped right round it. It is well to cut the wire only when it is nearly all covered in, the exact length can then be easily decided. Not an easy matter, otherwise, on a curve. See that no sharp edges are left when cutting the wire, or they may work their way through the metal later on. The wired edge may

be brought forward in the same way as the folded one, or the work may be held upon a stake with the wire on the upper side but projecting a little more than its own width beyond the edge of the stake, it is then hammered down till the upper surface of the metal is level with the wire. This method is useful if it is desired to bring the wire very sharply forward.

Mouldings of almost any section may be produced by the use of the drawswage. This tool consists of a strong rectangular frame with movable dies which can be pressed together by a screw. A groove of the exact section of the required moulding is filed in one of the dies and a strip of metal is repeatedly drawn through it, till, the dies having gradually been pressed closer by the screw, the metal is forced to take the desired shape. It is essential that the frame and dies should be rigid, therefore the metal for the frame should not be less than $\frac{3}{4}$ in. wide, and the frame may measure about 5 in. by $3\frac{1}{4}$ in. by $\frac{1}{2}$ in. outside. It will be seen from the illustration that on the two long sides the metal projects inwards in a V-shaped ridge. This ridge, is, however, cut away for about an inch at the top, so that the dies, into which it fits, may be removed at will. Each die has a V-shaped groove at either end, corresponding to the projecting ridges on the frame, in addition to the groove or grooves on its face. The whole arrangement is very similar to the stock and dies by which screws are cut. Indeed, a very useful drawswage may be made from an old screw-stock—especially if it be a fair sized one. The dies should fit the stock without a shake.

Suppose we wish to make a length of moulding No. 6. Remove the dies by withdrawing the screw and lifting them out of the frame at the gap. It will be noticed that A must always be put in last, and that it has no grooves cut on its upper edge—if it had they would probably get damaged by the point of the screw. On the upper face of B file a groove to the exact section of the moulding required; this groove, however, should widen out towards each side of the die, on the same principle as the tapering of the holes in a drawplate. With this difference, however: on the drawplate the tapering is towards one side only, but on the die it is in both directions from the centre. Great care must be taken to prevent any roughness or scratch being left on the die, as every mark will be reproduced in the moulding. Nor should any sharp corners or edges be left at the extremities of the groove, whatever the shape of its middle section. If present, they would cut or tear the moulding



MOULDINGS.

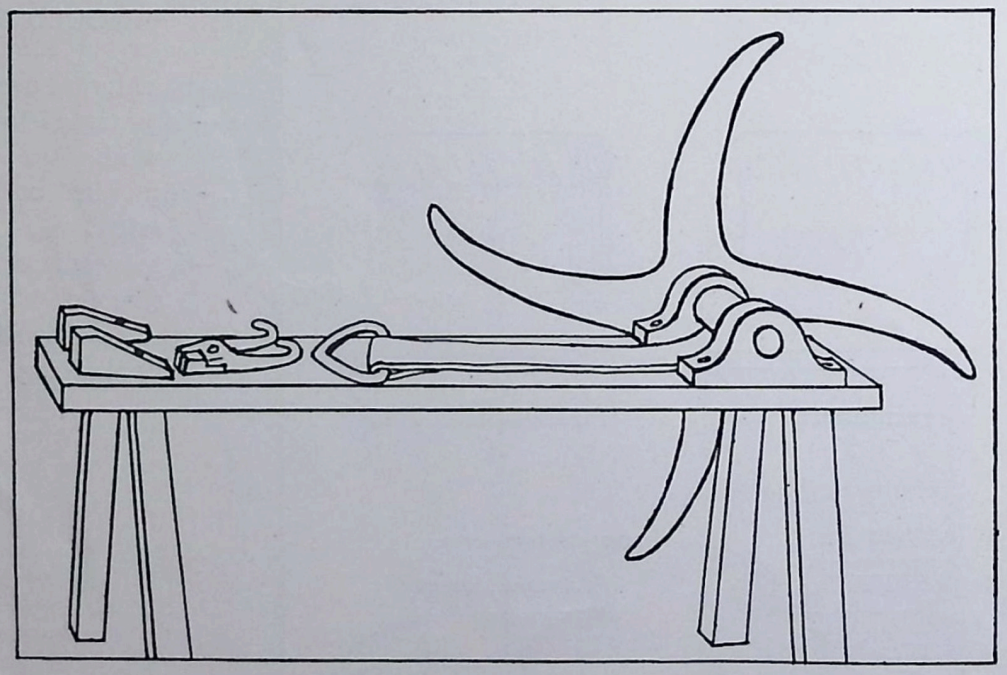
1.—Edge turned over outside.
2.—Edge turned in and set forward.
3.—Edge wired and set forward softly.
4.—Edge wired and set forward sharply.
5, 6, and 7.—Swaged Mouldings.
8.—Built Moulding.

instead of gently pressing it into shape. Take die A and round off its lower edge on both sides. If A and B are now put together and held up to the light, the groove should look exactly the right section in the middle, but be wider towards the front and back edges of the dies. Put the dies in the swage. Take a length of wire or strip metal, the nearest to the required section that may be available. It is sometimes possible to save the swage a little work by first flattening the wire or roughly hammering the strip to shape. Anneal the wire, grease or oil it, and put it between dies A and B. Tighten the screw till they fairly grip the wire. Then on the drawbench pull it through to within an inch of the end. Screw the dies a little closer, and pull back again from the other end of the wire. Repeat this process again and again, annealing occasionally, greasing frequently, and screwing the dies closer every time, till the wire assumes the desired shape.

It will be noticed that mouldings 5 and 6 are solid, and have a flat back. It is often necessary, however, to make mouldings in which the back follows the contour of the front as in No. 7. The German goldsmiths of the sixteenth century seem to have vied with each other in producing the most complicated patterns in this way. Such mouldings are made from strips of sheet metal, instead of wire. The dies are made so that part of B projects into the groove in C, or C into B. If the metal for the moulding is thin, it is necessary to make the dies to match each other very carefully, and to pay great attention to any projecting ribs, which are otherwise liable to cut through.

Sometimes dies are made with the grooves tapering to one side only, like a drawplate, and the moulding can be drawn through in but one direction. The only value of such a variation seems to be that more time can be occupied over the work.

Small mouldings, up to $\frac{3}{16}$ in., can be drawn by hand, the drawswage being held in a vice, but for larger work some mechanical means must be devised. Of these, the most usually convenient is the ordinary drawbench. Its essential features are a roller upon which a strap is wound, strong handles to turn it, and a pair of cleats to hold the drawplate or swage. The wire is gripped by a pair of tongs with hooked handles, which in their turn are pulled by a ring attached to the strap.



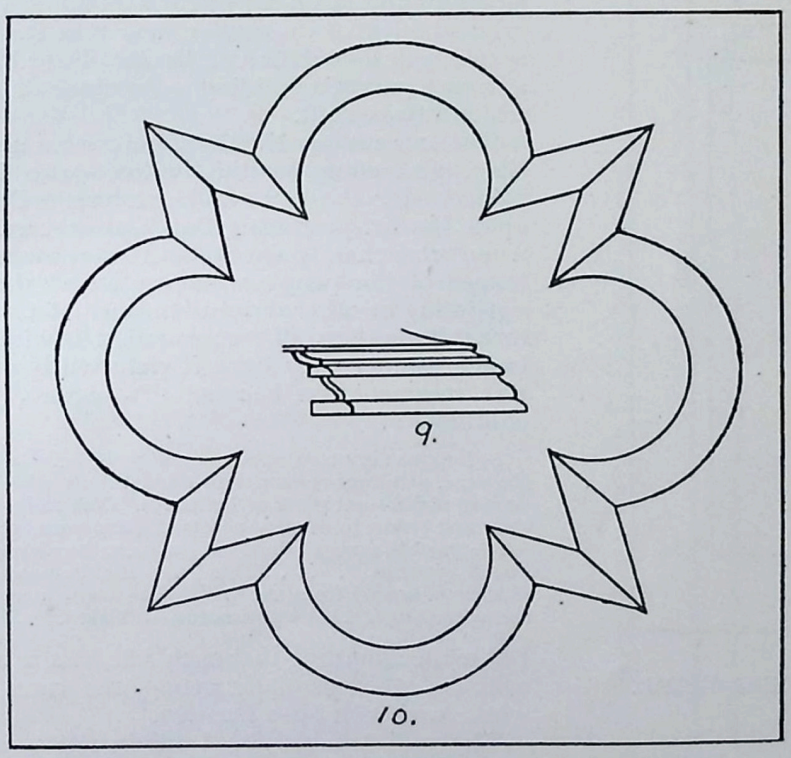
THE DRAWBENCH.

The illustration will make this clear. If a drawbench is not available, there are various possible substitutes. An ordinary mangle can be called into requisition. The swage is held in the vice, a strong wooden stay is wedged between the mangle and vice, and the draw-tongs are attached to a rope, which is wound several times round one of the rollers. By turning the handle and keeping the rope taut a considerable amount of power can be obtained. In a similar way a pair of blocks and a long rope may be used.

When only a short length of moulding is required and to make the swage-dies would occupy too much time, another method may be followed. Take a sufficient length of strip material, bend it into a ring, hard-solder the ends together, fix the ring on a chuck in the lathe and turn to the required section. Then cut at the join and flatten out

straight if desired. If heavy metal is used, say, for the solid base-moulding of a large vessel, it is well to dovetail the joint. Should there be any difficulty in keeping the ring of metal on the chuck, as when a tapering ring—wider at one edge than the other—is being turned, drill several holes, through it, at equal distances apart, and screw it to the chuck, with brass screws. File off their heads flush and turn the moulding to shape. Drill out the screws, plug and solder up the holes.

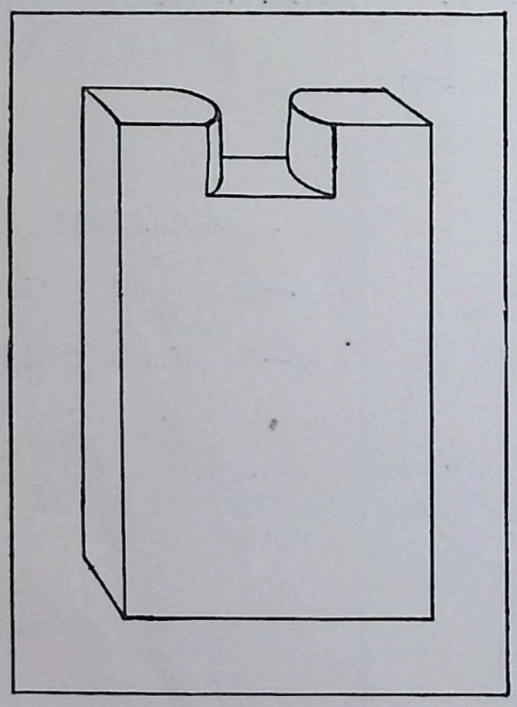
Mouldings are sometimes built up from a number of strips or concentric rings of different sections soldered one above the other. Suppose you have to make the foot of a cup with mouldings at the bottom like No. 9. From the plan you see that it is composed of four curved pieces and four projecting corners. The principal difficulty will be in keeping everything concentric and true in fitting and soldering, so too much care cannot be taken in making each individual piece true in itself. It is well not to attempt to solder many separate pieces together at once, as some may slip. Solder the pieces together in little groups of two or three at a time. Then see that each group is true itself before combining several. For the foot you require a straight strip long enough to produce the eight little pieces for the corners, allowing plenty of length for cutting : and four rings for the curved parts. Rather more than half of each ring will be required, so in this case the segments cut away will be useless. If the curved pieces on the design were each less than a semi-circle, two segments might have been got from one ring. Let us make the rings first. Start at the bottom. The lowest step is a thick strip of metal bent flat-ways into a circle. Get a piece of hard wood, say 3 in. wide, 1 in. thick, and several inches long, and put it with the end up in a vice. Make two saw cuts $\frac{3}{4}$ in. deep, leaving the exact width of your strip of metal between them. Remove the wood between the saw cuts with a chisel, and round off the vertical corners of the notch. See illustration. Anneal the strip, and put one end of it in the notch, flat side up. By using the other end of the strip as a lever you can bend the metal to the shape required. Give it a tap with a mallet on the flat stake if it buckles in the process. Strip copper up to 1 in. by $\frac{1}{4}$ in. can be bent in this way by hand, though it may be necessary in the larger sizes to face the notch in the wood with sheet metal, and to bend the strip when hot. The notch can be made in a piece of thick metal if desired. Cut each ring off when bent, not before. Solder the joints. Turn the rings to shape on the lathe, if you have one, if not file them. Take strips of sheet metal for the next part of the moulding, join the ends, and shape the bands thus made on a stake. A small hammer held in the vice often comes in usefully when a suitable stake is not available. When finished, these pieces can be wired to the bottom rings and then soldered. Take care that the joins in each ring and band and in any other piece soldered on subsequently are all in that part of the circumference which will be cut away when the pieces are fitted together to form the foot of the cup. But if you can help it, do



MOULDINGS.

9.—Section and profile of Moulding.
10.—Plan of foot of Moulding.

not make the oins exactly one above the other, or they are liable to slip in soldering. Always take care to remove any borax which may touch any solder which you do not wish to run. If you paint a joint with loam, whiting, or rouge, it will prevent the solder from running, unless you give it a very great heat. Now take in hand the straight pieces for the foot. The thick strip can be filed to shape, or bent round in a big ring, edgeways—not flatways as for the circles—soldered, and turned on a big chuck and afterwards flattened out again.



NOTCHED BLOCK FOR BENDING METAL.

Build the moulding up like you did the rings, and take care that when finished it stands just the same height that they do. Cut the corners on a mitre block, but see that the moulding stands level when you are cutting it. File the joints till they fit quite closely. Solder up each corner separately, then stand on the drawing and mark where it is to join the circles. Take the circles and cut out from each the part that is not required. Solder each circle to its right or left hand corner and then all four pieces together.

A moulding may also be produced by modelling it on pitch, either by driving it out from the back of the metal with repoussé tools, or by working it in from the front. To do this round a large bowl, it is usual to work with the side bedded in pitch and to move the bowl round as each section is completed. Large simple mouldings may be worked by the hammer alone on shaped stakes.

HERBERT J. MARYON.

ARE PICTURES ART?

AN American lady, Miss Bensley, in the New York "Independent," has opened a crusade against framed pictures as suitable decorations for the walls of our houses, says "T. P.'s Weekly." In a fine root-and-branch manner she says :—"The picture is not the highest form of art ; it is not, indeed, art at all." Shades of Velasquez, Rembrandt, Reynolds, Corot, Romney! And what will the thousands of assiduous workers with the brush say to this enthusiastic iconoclast? Miss Bensley is scornful about "an attempted decoration which can be carried about like a saucepan." Now it must be admitted that there is something in Miss Bensley's point of view ; the original idea of decoration was that it should be specially designed for a particular place ; be, indeed, as much part of a building as the stone or marble of which it was built.

Our marauding Northern ancestors are responsible, according to this writer—who is also a painter—for the removable picture. Descending upon the art-producing South, they carried away from churches, palaces, and the more modest homes of the people whatever struck the eye. If a painting or other decoration was detachable, they tore it from the wall, "surrounded it with wooden bands, and as they bore it victoriously northward this fragment has become the picture," and she continues :

> As long as they continued to capture rather than to create their art, paintings remained to them things which could be carried about—not parts of buildings. Naturally, too, when they first began to develop artists of their own, these copied the form of the most valued art products they knew, and produced pictures. . . . This was the beginning of that divorce of beauty from use which has come near to killing art by making it a class possession—a luxury.

But while admitting that such vandalism was, if inevitable, still essentially wrong, one cannot go the whole way with Miss Bensley.

The real trouble, is, I think, not that framed pictures are in any way antagonistic to art, but that their owners too often hang unsuitable subjects close together. One seldom goes into a room without feeling some discordant note upon the walls—a figure subject in low tone, perhaps, killed by a glaring study of fruit or flowers. And nearly always walls are far too crowded, so that the eye is distracted instead of rested. It is far better to have half a dozen reasonably good pictures than a score of indifferent ones, and even a couple may add distinction to a room. Also, where it is practicable, pictures might well be changed at intervals. In Japan one treasure is exposed for a few days, and then another takes its place. No one will quarrel with Miss Bensley's statement that "the first requisite of beauty is harmony, and the effort of art to produce it must necessarily be based on that fact." But the framed picture may be made an unapproachable element of harmony, and the great army of artists need not yet consider their occupation gone.

The Work of Beatrice A. Waldram.

Beatrice A. Waldram.

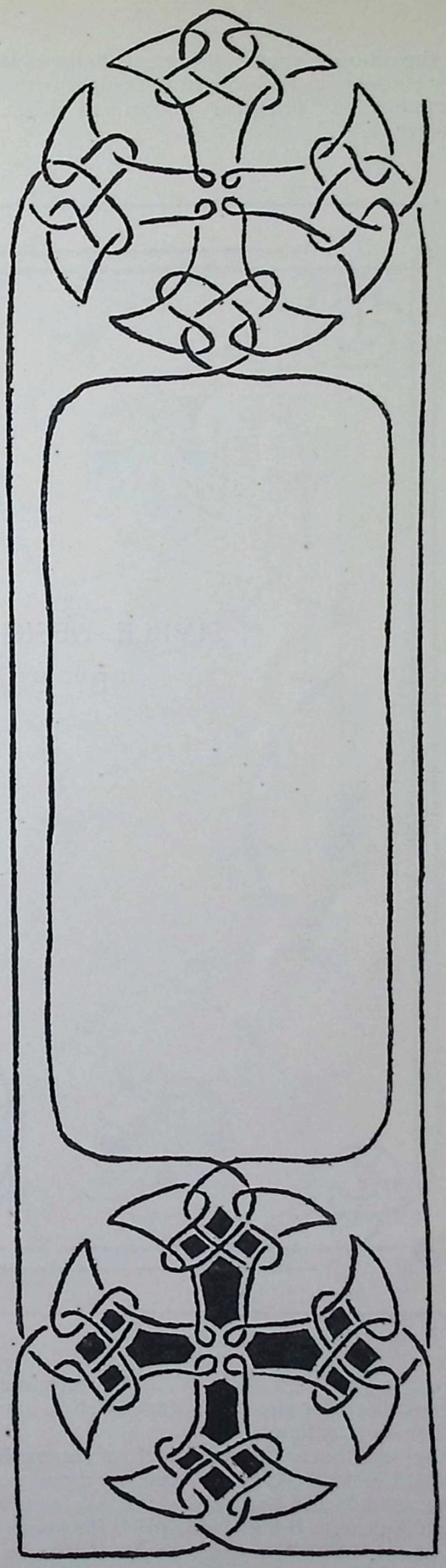
It has often been said that designers, like poets, are born, not made, and there is no doubt a great deal of truth in this saying. Look at the many Art schools which we now have in England, or, at any rate, in London, and the many hundreds of students turned out yearly from these schools who are qualified in some branch of art work. Yet how many of them are capable of making a good design? At the numerous exhibitions which the present writer visited during the last month, little fault could be found with the workmanship—indeed, the average excellence was a matter of surprise; but the same certainly could not be said of the design, which in many cases was very poor, and, taking the average, was certainly not of the same high standard as the execution. It is difficult to find a reason for this, unless it be that it is not possible to make students good designers, unless they already have a gift in that direction.

Fortunately, however, there are always some who have a natural gift, which has been developed by the present system of teaching. Among these younger designers Miss Beatrice A. Waldram is one of the most promising.

This young lady, who is on the right side of thirty, has a remarkable talent for design, especially in connection with needlework, which is the branch which she has principally devoted herself to. My attention was first called to her work by seeing some of her designs carried out by the Clapton School of Art, and a subsequent visit to Miss Waldram's studio strengthened my opinion as to the merits of her work. Unfortunately, the examples which we are able to reproduce in this number do not by any means do justice to Miss Waldram's extraordinary versatility, for the majority of the designs which we saw and coveted for the Magazine had been executed as commissions, and were, therefore, forbidden fruit.

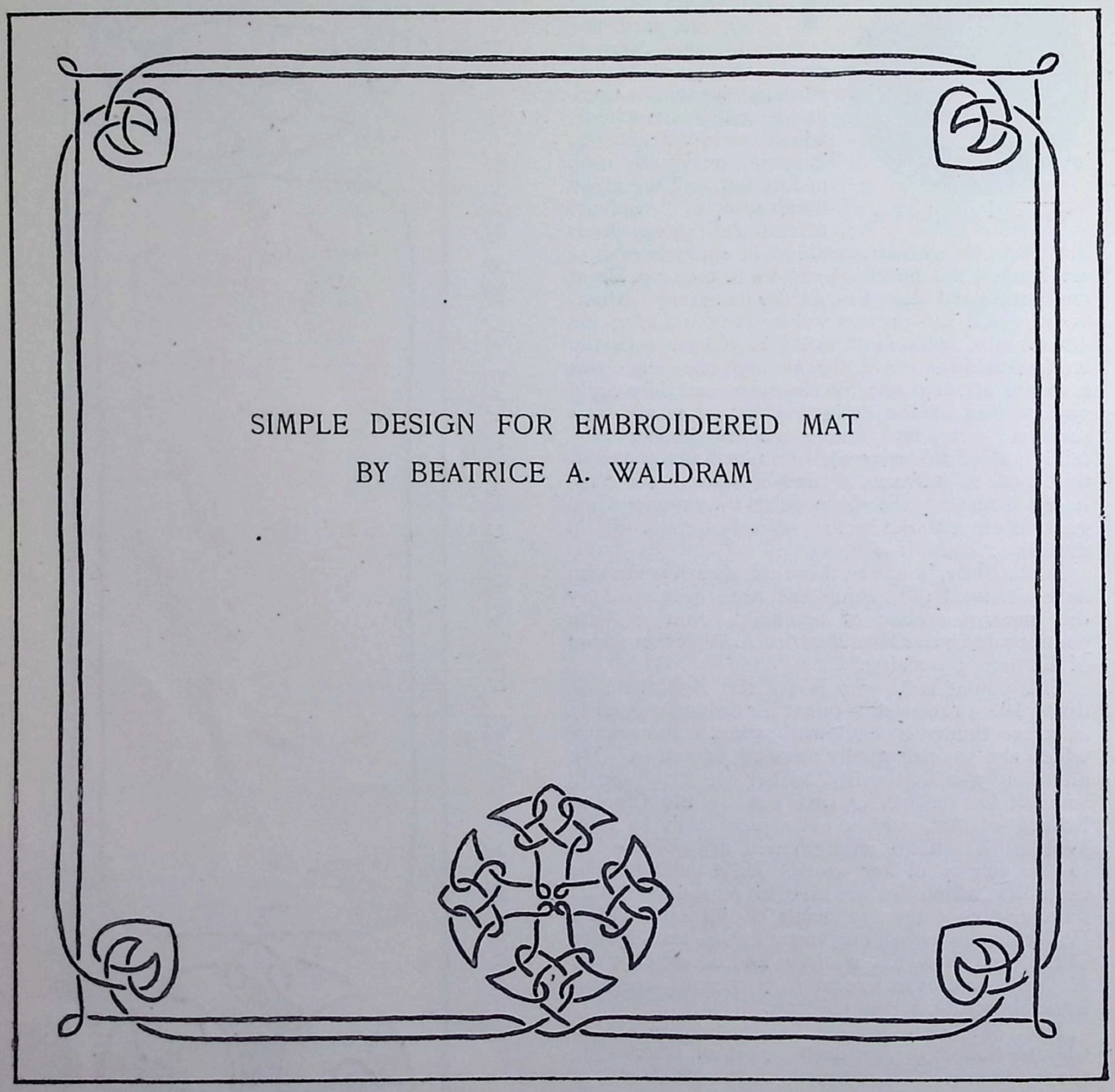
Miss Waldram studied for four years at the Clapton School of Art, during part of which time she acted as pupil teacher, a position which was of great help to her, and she modestly attributes a great deal of her success to Miss Giles, the energetic Head Mistress of the School.

Later, Mr. Lewis F. Day, being in need of an assistant, applied to Miss Giles, as he had been favourably impressed with the work of the School, and the post was subsequently offered to Miss Waldram and accepted. Here she worked for six years as Mr. Day's sole assistant, and undoubtedly the association with this great designer has been



Design for an Embroidered Stole. By Beatrice A. Waldram.

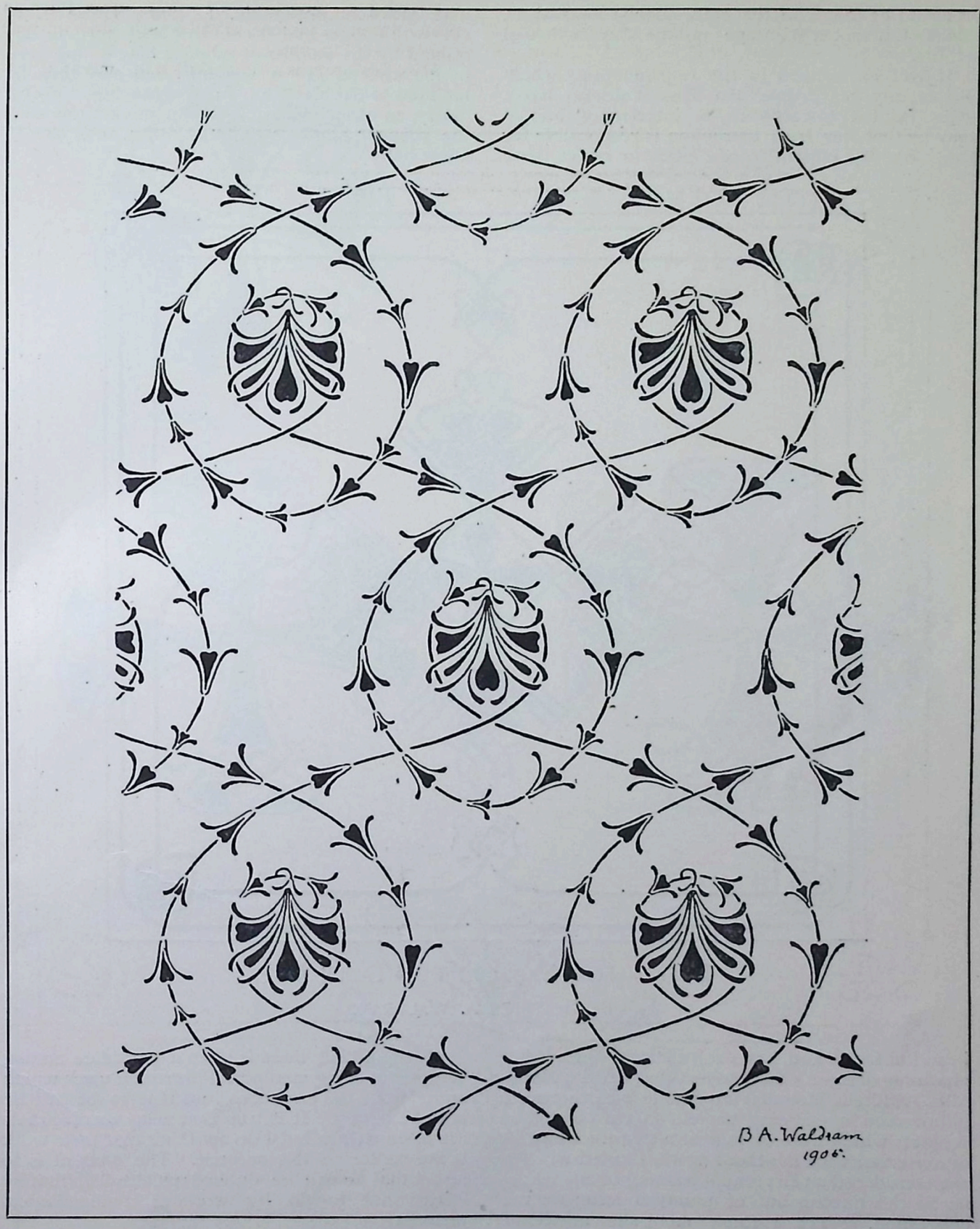
of the utmost value to her. It falls to the lot of few students to be brought in contact with so many branches of practical design as Mr. Day is master of.



Just a year ago Miss Waldram terminated her engagement, for she had a great wish to start work on her own account.

She has been the recipient of many honours during her short career. Among them gold and silver medals and the Princess of Wales's Scholarship for design, the Queen's prize for principles of ornament. She also holds an Art teacher's certificate and first-class certificates for advanced design, principles of ornament, architecture, life, antique, still life, and anatomy.

Miss Waldram is also a skilled illuminator, and was formerly a pupil of Mr. Johnston's. She now teaches this subject at the Clapton School of Art. Although Miss Waldram has studied the practical side of embroidery, she finds little time to execute her own designs, and has now practically devoted herself entirely to designing. Still she considers this a small matter for regret when her designs can be executed, as so many are, by such able workers

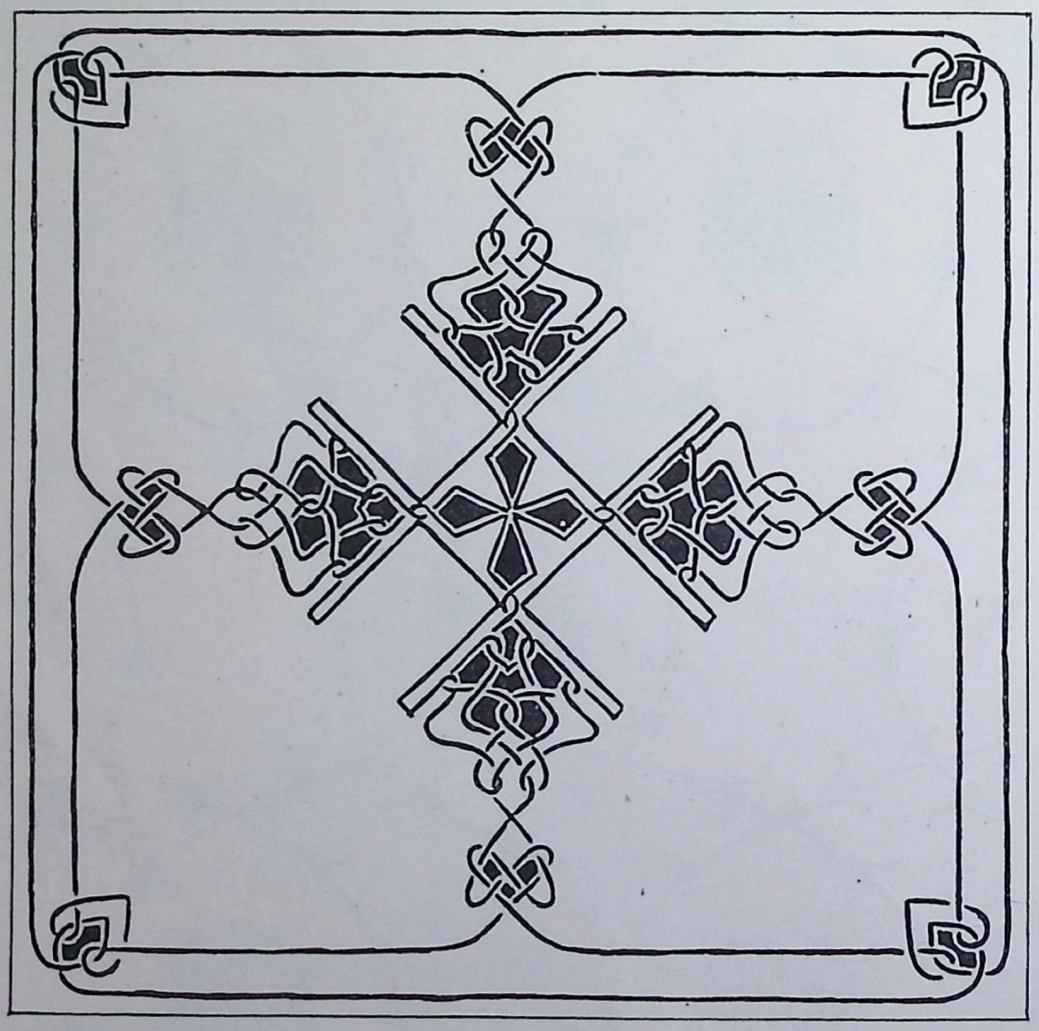


DESIGN FOR A TWO-COLOUR COTTON PRINT.

BY BEATRICE A. WALDRAM.

as are to be found in the embroidery-rooms of St. Mary's Convent at Wantage, and the Clapton School of Art.

It will be noticed in the reproductions which accompany this article that Miss Waldram has a great leaning towards Celtic interlacing, and it may be that her Irish extraction is responsible for this. She has certainly done much to revive these beautiful forms and has evolved from them some charming designs. In the short chat that I had with Miss Waldram, I found it impossible to extract much information concerning herself, so we chatted on subjects which were of mutual interest. Knowing of her experience in school work, I asked whether she considered an Art school training of any use, so far as the turning out of practical designers was concerned. "Yes, I think so," she answered, "but that alone does not make a practical workman. The training should be either preceded or supplemented by work in a practical workshop. The latter is preferable, I think. There is, of course, a danger that the student may become distracted by the number of subjects taught, and even by the work of fellow students, and may thus be tempted to dabble in too many branches. Fortunately, an observing principal can prevent this with the younger students and the older ones should know better.



DESIGN FOR EMBROIDERED TABLE MAT.

BY BEATRICE A. WALDRAM.

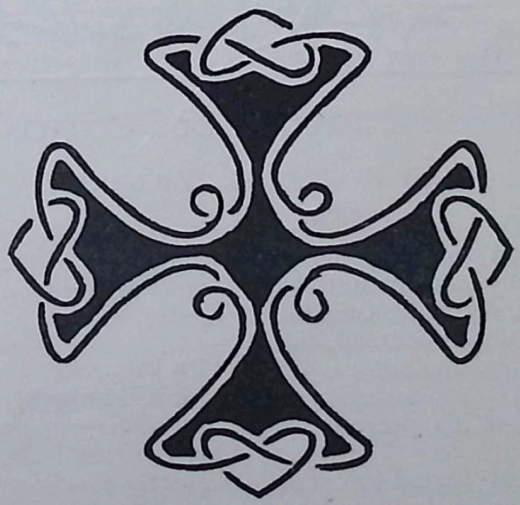
"I think that there is often a prejudice among students at being methodical over their work which arises from the erroneous idea that to be artistic is to be untidy. It is true that many clever artists are often untidy, but I do not think that their work is the better on this account. The student is so afraid that he will be dubbed mechanical that he strives not to do his work in a mechanical manner."

"You evidently consider there is plenty of scope for design for embroidery."

"I do," said Miss Waldram, "I think em-

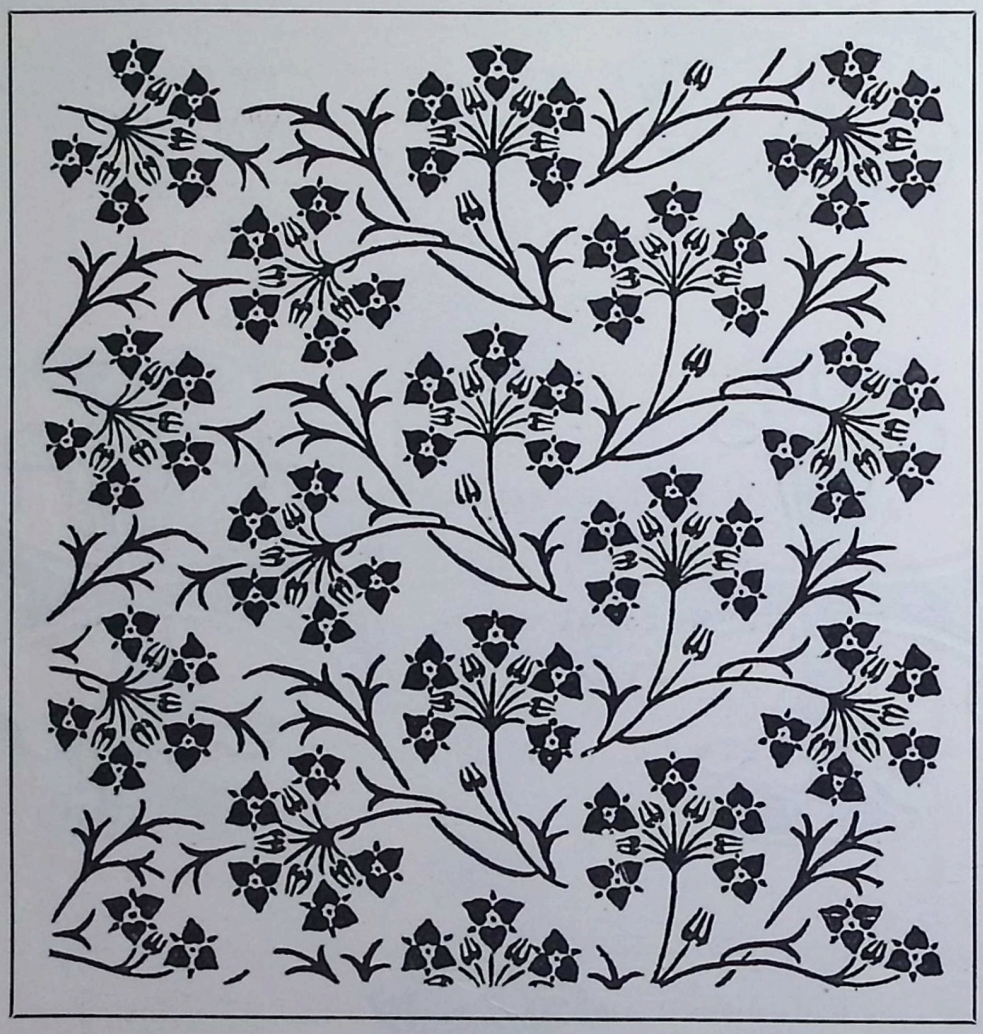
CROSSES FOR EMBROIDERY

BY BEATRICE A. WALDRAM



broidery is a craft that has suffered severely from being carried on without the influence of good designers. There are so many capable workers who have no desire or ability to become designers, and the designer is so often at fault because he cannot deny himself the pleasure of making an elaborate design instead of the simple patterns which are really far more suited to embroidery. Designers, too, fail because they are anxious to produce an elaborate or else a strikingly original design; and, so far as embroidery is concerned, the former is generally unpractical and the latter ugly. I do not think a designer should be too assertive or too anxious to leave the mark of his personality upon his design.

"In designing for ecclesiastical decoration, the designer is perhaps more hampered by tradition than in any other branch of work. I cannot see why this should be so. Certainly *l'Art Nouveau* is not devotional, and is quite unsuited for the decoration of churches; but surely the choice does not lie between the aggressive squirm of the up-to-date design and the dull and soulless copying of, say, 13th century Ecclesiastical Art. What we should do is to study the old work until we understand and are in sympathy with the spirit which lies behind it, and then try in the same spirit to meet the conditions of our own times." A. F. P.



DESIGN FOR A TWO-COLOUR COTTON PRINT.

BY BEATRICE A. WALDRAM.

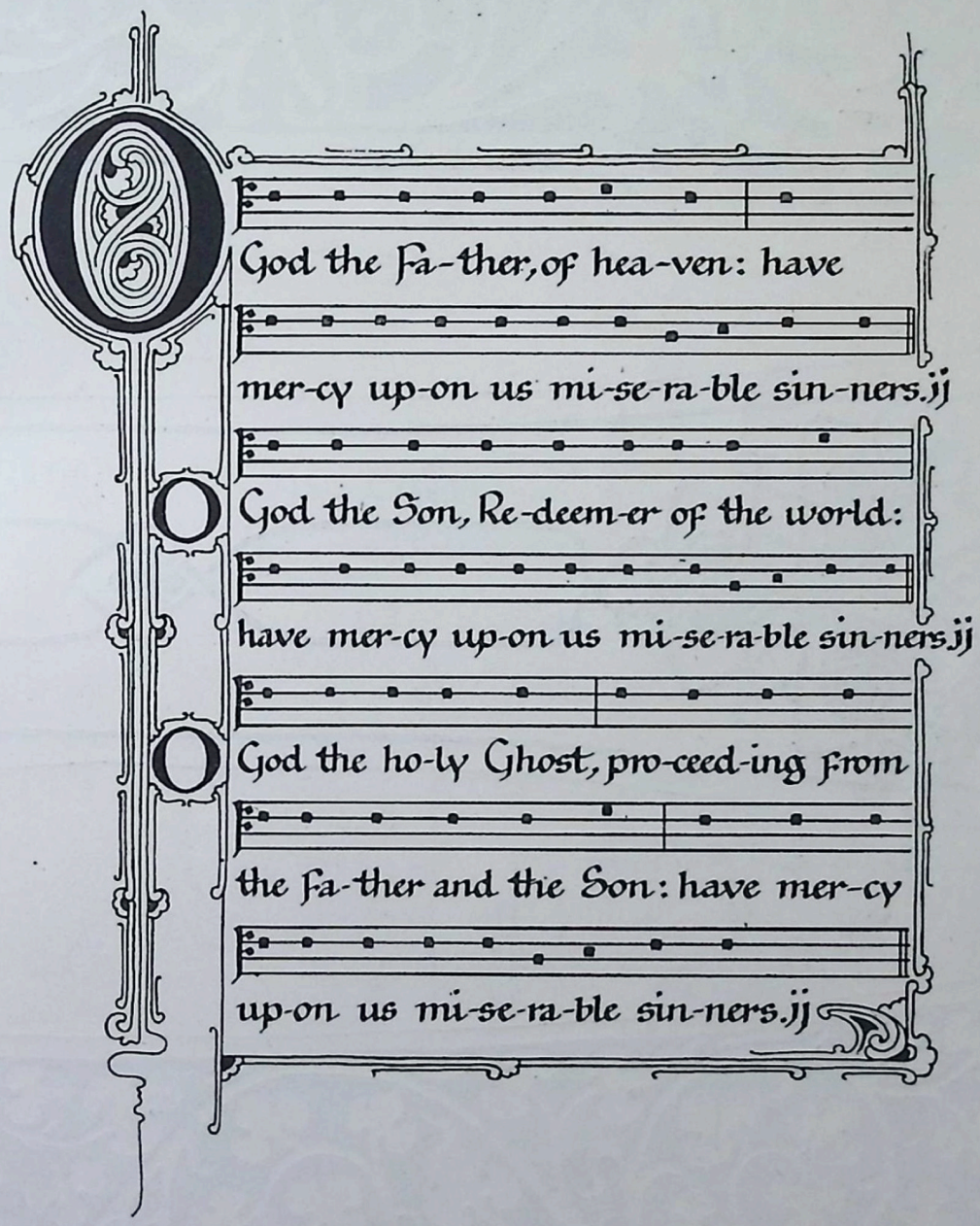
IN preparing clay for modelling, be careful to work it thoroughly. The lumps you receive it in have been prepared by straining and grinding till they are free from grit; but to make the material perfectly plastic you must mix it with water, and work the mass until it is thoroughly moist. Do not be afraid of soiling your hands. Soap and water are all you need to cleanse them.

"THE HANDY MAN'S BOOK."

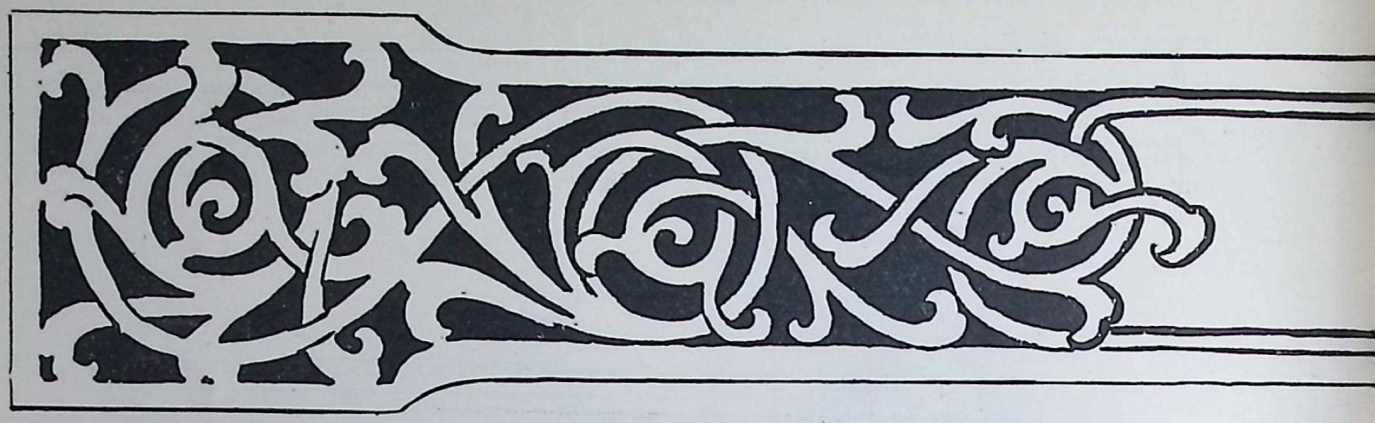
THIS work, which is being published weekly, is a perfect mine of information for both the wood-worker and the metal-worker. It deals in a thorough and comprehensive manner with the tools, materials, and processes employed in these two crafts, and is contributed to by the best experts in each department, the whole being edited by Paul N. Hasluck, the able Editor of "Work" and "The Building World."

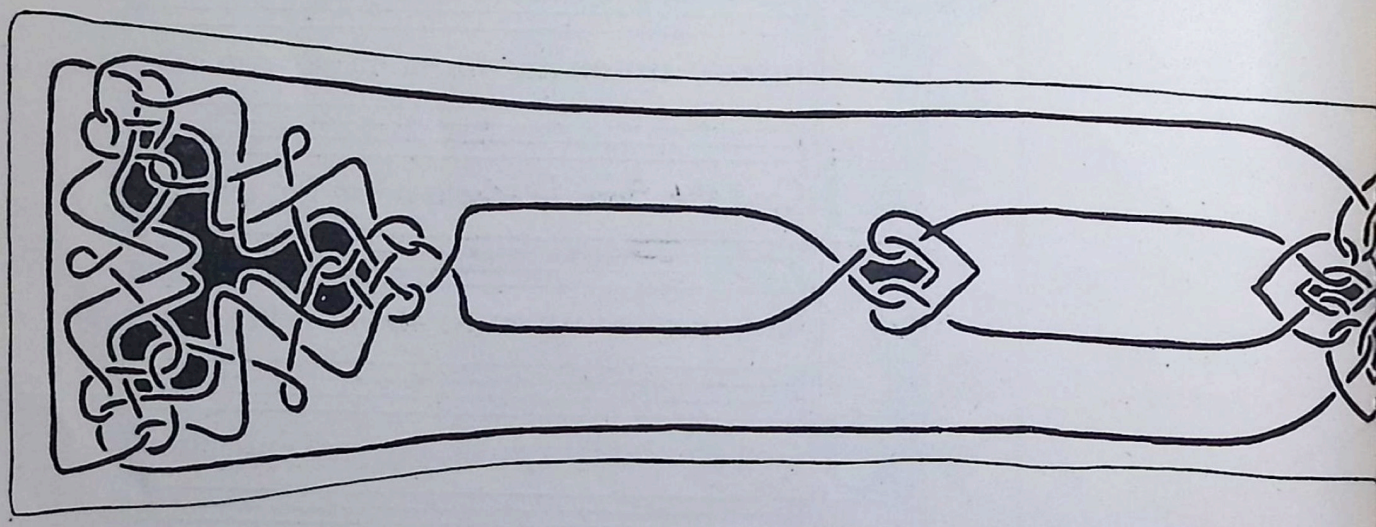
A special feature of this work is that it presents graded courses of instruction. It does not assume any special knowledge on the part of the worker; but, starting with elementary principles, it imparts gradually a thorough knowledge of the two subjects with which it deals. The limitation of the amateur both in tools and in workshop conveniences are wisely kept in mind; but at the same time the methods taught are not amateurish, and this publication will appeal to professional workers as much as it does to the student beginner.

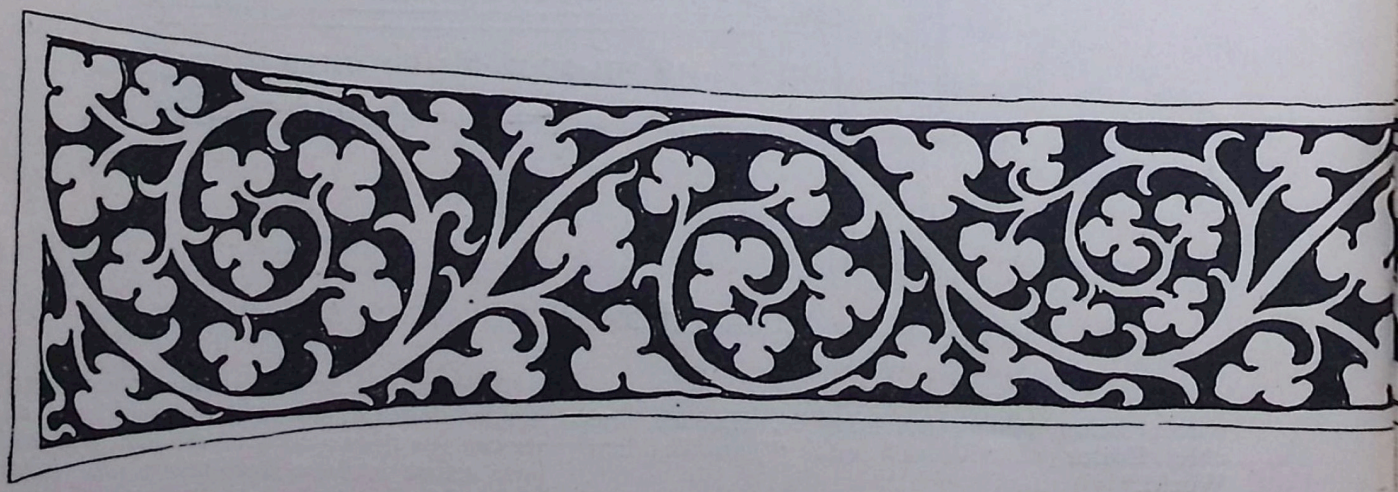
There will be over 4,750 illustrations and working drawings in the completed work, and, as far as we can see from a copy of the first part which we have before us, these illustrations are wonder ful clear, and add greatly to the value of the work as a text-book. [London: Cassell & Co., Ltd. Price 3d. To be completed in 48 weekly parts.]

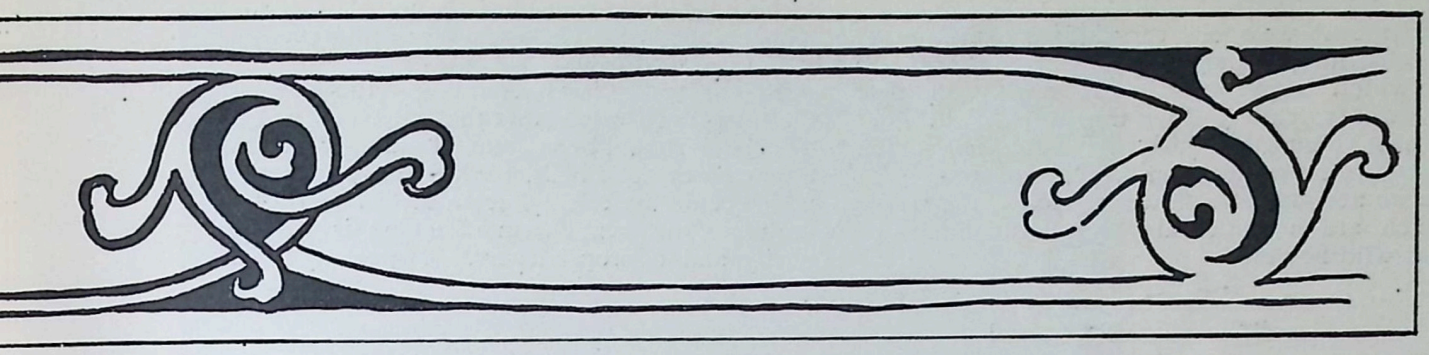


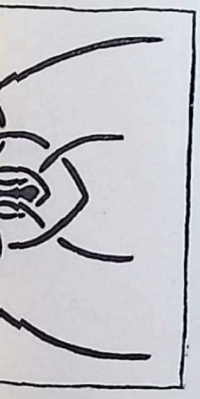
A PAGE OF ILLUMINATION. BY BEATRICE A. WALDRAM.





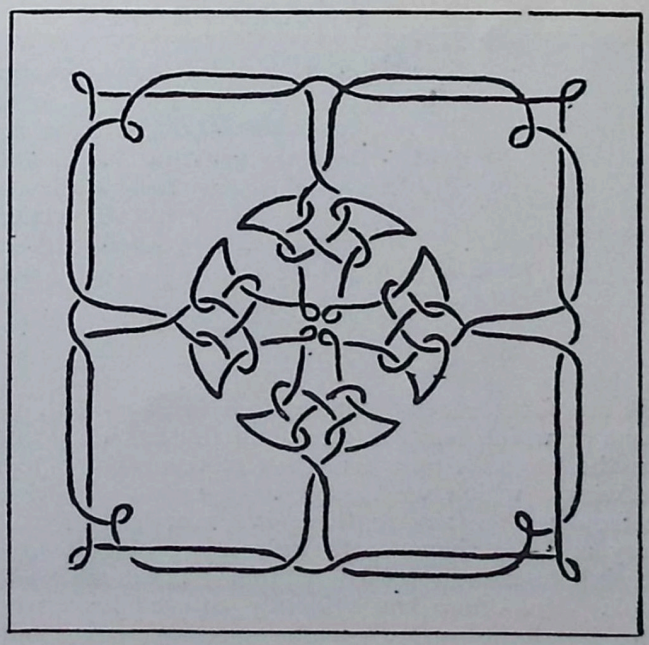






DESIGNS FOR EMBROIDERED STOLES.

BY BEATRICE A. WALDRAM.



DESIGN FOR EMBROIDERED MAT.

BY BEATRICE A. WALDRAM.

"A FLOWER WEDDING."

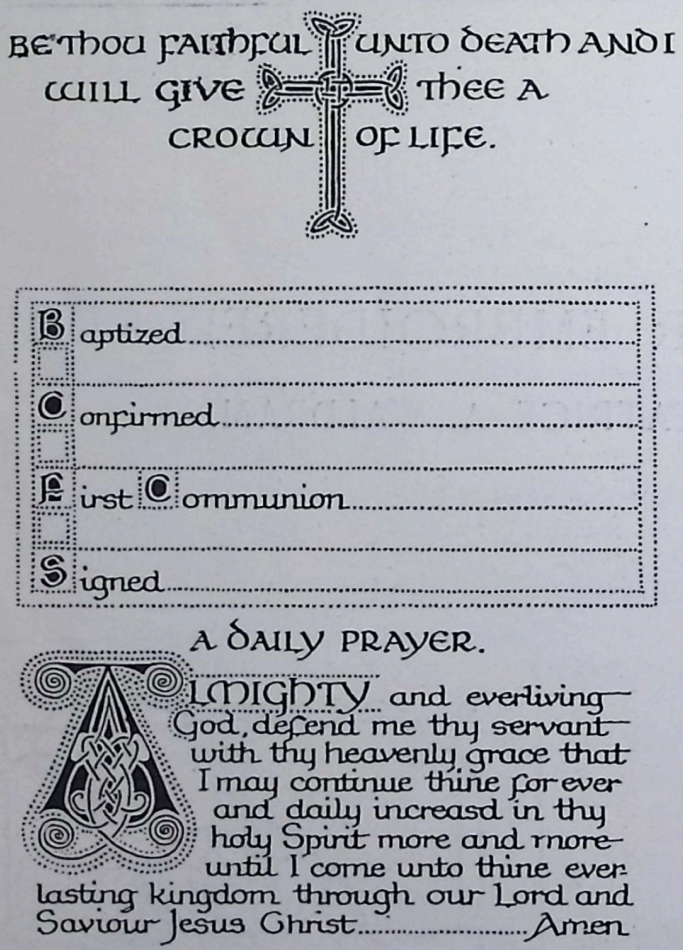
DECORATED BY WALTER CRANE.

LAST month we spoke very fully concerning the charming colour books by Mr. Walter Crane which have been issued during the last twenty years, and we were delighted to find that a new volume has just been published, which is even more charming than its predecessors.

It is an account of a flower wedding, the words of which are a continual play on the names of familiar wild flowers.

The illustration shows a dancing harlequin whose costume is entirely based on the plant wild thyme; in his hands he carries the sythe and glass of Father Time, while in the background is a ghost holding a stalk of night-shade.

This gives a fair example of the humorous double play on words that the artist has given us. This book should be in great demand by those who attend fancy dress balls, for there are many ideas which could be adapted from Mr. Walter Crane's costumes, the great charm of which is their simplicity and appropriateness. Especially suitable



ILLUMINATED PAGE · BY BEATRICE A· WALDRAM

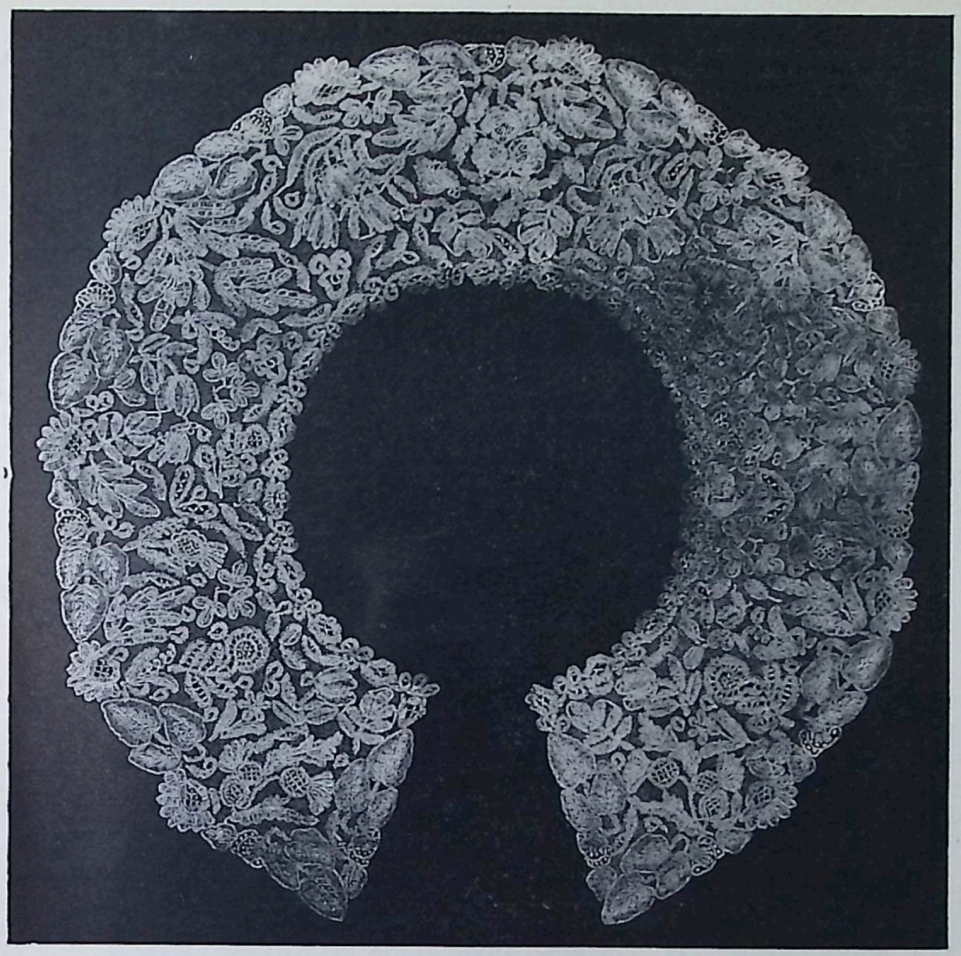
There are forty pages of illustrations in colour, every one of which bears reference to the line of text on the page. Apart from the cleverness of the drawings, which we accept as a matter of course from such a master, there is a wonderful ingenuity and wit shown in the references, which is impossible to explain to those who have not seen the book. Mr. Crane has evidently enjoyed his task, and has light-heartedly made atrocious puns both in illustration and text.

Take, for instance, the lines :—

The Wild-thyme they had, and the fuss that was made
Kept the guests in a rout thro' the Deadly Night Shade.

are the costumes London Pride, Rose Mary, Rose La France, Golden Rod, Sweet Sultan, Creeping Jenny, Hartstongue, Penny Royal (in which a figure of Britannia draped with the plant, holds a large penny), Lady's Cushion, and Pitcher plant.

The illustrations are well lithographed, and the whole "get-up" of the book, including covers and end-papers, has evidently been the especial care of the artist. We have only one complaint, and that is for the manner in which the book has been sewn, which prevents the leaves being opened flat. [Cassell & Co. Price 6s.]

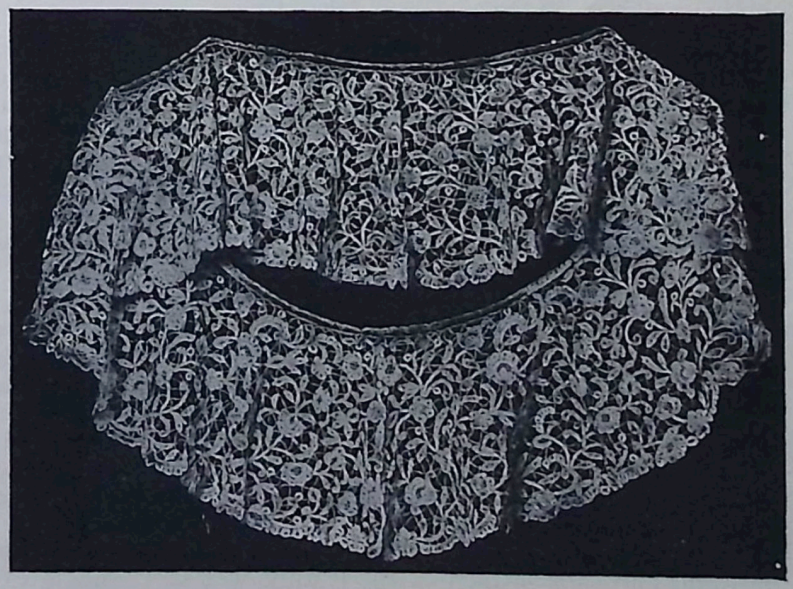


BERTHE IN HONITON LACE

(In the possession of JOHN WILSONS' SUCCESSORS, Ltd.)

BERTHE IN BYZANTINE LACE

(In the possession of JOHND WILSONS' SUCCESSORS, Ltd.)



Bookbinding.

A NEW SERIES OF PRACTICAL ARTICLES ON BINDING, TOOLING, AND DESIGNING.

By F. SANGORSKI, Teacher at the Northampton Institute, and
G. SUTCLIFFE, Teacher at the Camberwell School of Arts and Crafts.

XVII.—Tooling Insides of the Cover (*continued*).

When all the pattern has been tooled, the surplus gold is rubbed off with what is called a "gold rubber." This is made by placing some pure rubber, cut up small, in a jar, and just covering it with paraffin oil. Leave it for about twenty-four hours, and it will be found that the oil has penetrated into and softened the rubber, making it into one pliable piece. When this is used for rubbing off the gold, the rubber should be opened out and the gold wiped into it, and the rubber then closed up. By this means all the waste gold is preserved in the rubber, which, when it has absorbed as much as is possible—that is, when it gets very soft and losses its elasticity—should be sent to a gold refiner for melting down.

After cleaning off the gold, wash the leather with benzine applied with a small piece of cotton wool. This removes the grease that was used for laying on the gold. Should any loose gold still remain, it can be removed by rubbing with a piece of flannel. A clear view will now be obtained of the tooling, and, should it be found that the gold has not adhered to any portion of the pattern, that part will have to be glaired, relaid with gold, and retooled.

If the lines have been run in too far at the corners, the projecting portions can be removed with a point of the dividers, *used wet*, or a pointed piece of wood (match) would do. Any gold still adhering to the leather, in places where it is not required, can be removed by this means.

Lines needing correction, or a line in the wrong position, if not too deeply impressed, can be removed by painting it with vinegar, until the leather is thoroughly soaked. It will then be found that the gold can easily be removed with the match or dividers. By again soaking with vinegar, the impression of the lines can be removed and the leather should then be allowed to dry, when the lines can be correctly marked in, glaired, and tooled.

The reasons for gold not adhering are several. The tools may have been too cool, the glaire too dry, or the pressure of the tool not sufficient. If correctly done, the tooling should look clean and bright. If the tools are used when too hot, or, if the leather is too damp, the gold will have a blurred appearance, and the surface of the leather will be burnt. If these faults are only slight, the gold can be washed out and the impression glaired and retooled, but if deeply burnt the impression will have to be filled up with a piece of leather, pasted in, before it can be retooled.

XVIII.—Tooling the Outsides of the Cover.

After finishing the inside margins, the pattern should now be prepared for the outside. As we have remarked before, it is advisable to defer the description of pattern making, until the processes of tooling have been thoroughly described. On page 87 we give the pattern we intend tooling on our book and also the tools with which this pattern is made up. These latter should be looked out and placed on the finishing stove.

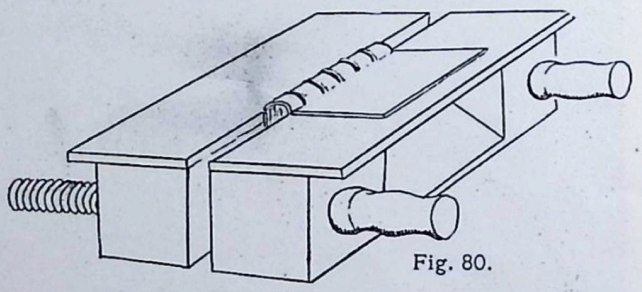


Fig. 80.

When the gouges and lines have been found which fit into the lines of the pattern, it is advisable to mark the number of each one on one corner of the pattern, then, if during the tooling it is doubtful as to what gouge or line should be used to make a certain line in the pattern, reference can be made to the corner in which the numbers are marked. In the pattern which we illustrate, the numbers of the gouges and lines are marked in the bottom right hand corner. F and R represent flat and round gouges, S represents straight lines.

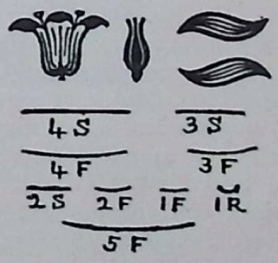
The pattern should be slightly pasted at the corners, and attached in its correct position on the back cover. Just enough paste should be used to keep the pattern in its position. If too much is used, it will be difficult to get the pattern off, and may cause a stain on the leather. It is advisable to start on the back cover, as a slight experience of the pattern is then obtained before tooling the front, and any irregularity would, of course, be less apparent on the back cover. Fig. 80 shows a convenient method of fixing the book in the finishing press when tooling the sides.

The tools should now all be stamped in, taking great care to impress them exactly in their right positions. The heat of all the tools should be slightly below hissing point. The pressure applied should vary according to the size of the tool. The flower requires considerable pressure, while the dots and small gouges need very little. When using gouges, a better sight can be obtained of the line that is being made when looking on the inside of the curve. All tools, excepting the dots, small

WORKING PATTERN FOR BOOKBINDING

WITH IMPRESSIONS OF TOOLS USED

(SEE PAGE 86)



gouges, and lines, require a slight rocking motion when being impressed. To enable this motion to be given without digging in the edges, all tools are cut with slightly rounded surfaces. With the larger gouges a motion lengthways is sufficient, but care must be taken not to lift them too much, or the ends will dig in ; but with most other tools the motion can be given in all directions. Naturally, the difficulty of obtaining a good impression increases with the size of the tool, or rather with the amount of surface the tool has. When "striking" a large tool, such as the flower we are using, it would be almost impossible to give sufficient pressure to obtain a good impression by simply "striking" it down without any motion. By giving it a slight motion the pressure is applied to a small portion of the tool at a time. To obtain a good impression of a large tool, proceed as follows. Place the tool down in its position with the handle upright. A forward motion should then be given, then backwards and then upright, then rock to left and to right. It is a mistake to attempt to go from the backward position to the left or right, without centring first, as the tool is likely to get out of position and a double impression would result. These movements must of course be gone through quite rapidly, and an even pressure applied to the tool throughout.

When all the tools have been impressed, the border lines should be marked in with a folder, guided by a straight edge. Long straight lines should always be marked in this way. If an attempt is made to blind them in with the fillet the working pattern is likely to wrinkle up as the wheel moves along its surface, resulting generally in a crooked line.

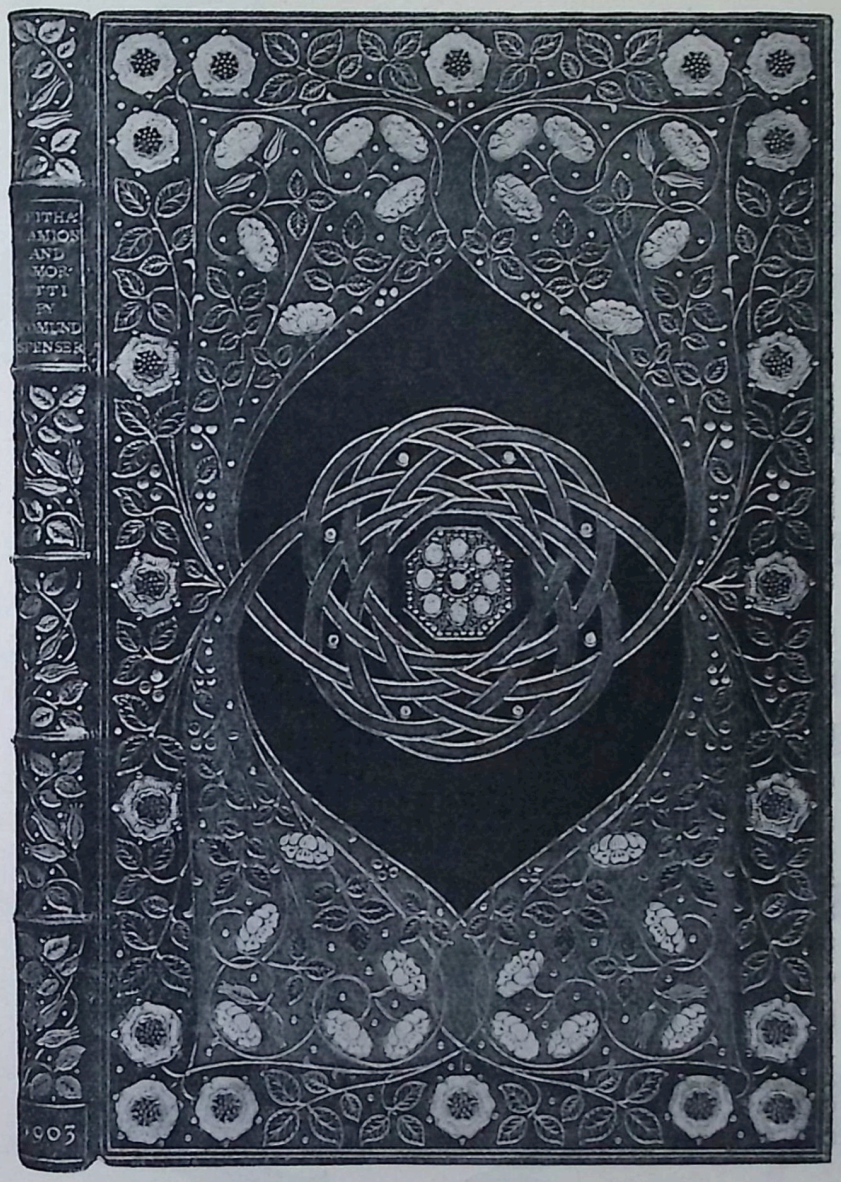
The paper should now be damped at the corners and removed. If it is removed without damping, it is liable to pull off the surface of the leather where it is pasted. It is advisable to lift up only two corners first, and ascertain whether all the pattern has been stamped in. If any portions have been overlooked, the paper can be laid down again in its former position and the remaining impressions tooled in. On removing the paper, the paste on the leather at the corners can be washed off, and any tools that have not been impressed sufficiently can be stamped in again. It naturally requires experience to know what is a sufficient impression, but it must be borne in mind that the leather has to be washed, and that this will remove some of the impression, and that there should be sufficient remaining to be seen clearly through the gold when it is laid on.

If the gold fails to stick in only a few places, it is sufficient to just reglaire slightly and retool ; but if the greater part of the gold has failed to adhere, it is better to wash with vinegar and retool the whole.

The lines round should now be marked in again with a folder, and the pattern then blinded in on the front cover in a similar manner. When this is done the back cover should be washed with vinegar and glaired (see Chapter XVII.). With a pattern such as the one we are using, which can be tooled in a few hours, the whole side can be washed and glaired, but with a more elaborate pattern that would perhaps take one or two days to tool, it would be advisable only to wash and glaire a portion of the design, that is to say, sufficient for two or three hours' work. When the glaire is sufficiently dry the gold can be laid on, and the pattern tooled. For successful tooling a quick, decided stroke is required. The tool must not be kept hovering over the impression, or the heat from the tool will dry up the glaire before it is struck, with the result that the gold will not stick. The worker must take up a position well over the book, so that a clear view can be had down the front of the tool. At first it is probable that some difficulty will be found in striking the tool in exactly the same impression as that which has already been "blinded" in. Most tools have some point or points that can be used for guidance. When striking, the face of the tool should be held about one quarter of an inch away from the impression, and a view should be got of as much of the outline of the tool as possible ; thus it must be noted that a long tool should always be struck lengthways. Then, taking view of as many of the points of the tool as can be seen, they should be sighted to correspond with similar points in the impression. When this has been done, the tool should be quickly lowered and struck. The length of time that the pressure should be applied varies much with the size of the tool. With the smaller tools, such as dots and small gouges, a slight quick pressure is sufficient, but the larger tools require a heavier and longer pressure.

If the tools are used as cool as is possible to make the gold adhere, and are used with a quick and decided stroke, the brightest and cleanest tooling will result. It is only by experience that the correct manipulation of the tools can be learnt. Experience is also required to know when the leather is dry enough to commence the tooling. If the leather is too damp the tooling will be dull, and the tools will burn the leather if used when they are in the slightest degree too hot. It should be remembered that when cooling the tools the whole of the metal projecting from the handle should be placed on the wet cotton wool, for if only the end of the tool is cooled the heat from the remainder will quickly run down and make the whole tool almost as hot as it was before. An experienced worker will so regulate the heat of his stove that the tools will require very little cooling. When using hollow cut tools, care must be taken to see that no water has collected in the tool before striking the impression. Small dots can be struck with the handle of the tool slightly inclining towards the top of the cover, for by impressing them at this angle they afford points for the light to reflect on (see Chapter XV.). Always remember to keep the fillet well oiled so that it revolves properly, otherwise it is apt to slide along without revolving, and thus scrape away the gold.

(*To be continued.*)



BINDING BY F· SANGORSKI & G· SUTCLIFFE

IN DARK BLUE MOROCCO INLAID WITH LIGHT BLUE · GREEN LEAVES AND WHITE FLOWERS · SET IN THE CENTRE WITH OPALS · SIZE $8\frac{1}{2}$ IN. × $5\frac{1}{2}$ IN.

ABCDEFGH

ILMNOPQR

ST·VX & 1693

Bronze at Magdeburg by Peter Fischer 1497

Date from Monument at Ware

ALPHABETS FOR ART WORKERS

No. IX. (From the Collection of Mr. Gawthorp)

Practical Talks about Wood-carving.

BY HERBERT TURNER.

II.—The Sharpening of Carving Tools.

MANY a beginner has, if not altogether given up wood-carving, at any rate been seriously discouraged by the difficulties experienced in the use of the tools, by reason of their becoming "gapped" or dull, and of not knowing just how to sharpen them in a proper manner. A few notes, therefore, should be acceptable, on this subject; and not only useful to the beginner, but also to the more advanced beginner.

When the tools come from the manufacturer they are not sharpened in any way, but are quite thick on their edges. Also the quicker gouges,

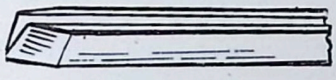


Fig. 6.

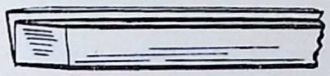


Fig. 7.

flutes, and the V tools are always long in the point, as in Fig. 6 (side view of V tool).

The first thing to do is to grind down this point until the edge of the tool is at right angles to the direction of the tool, as in Fig. 7 (side view of V tool); this is done by applying the end of the tool to the grindstone; as in Fig. 8.

It will still have a thick edge, made thicker than before by grinding. This has now to be brought to a fine edge.

A difference of opinion, however, seems to exist among craftsmen as to how this should be done.

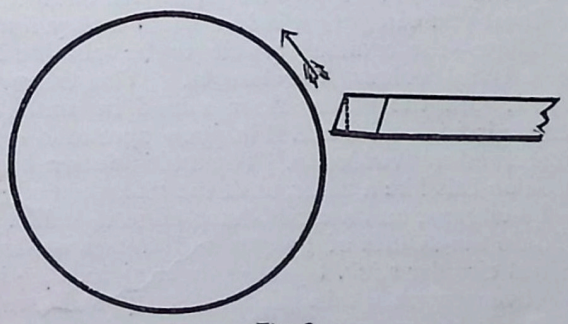


Fig. 8.

Many wood-carvers think that because the tools themselves are thinner than any carpenter's tools, and are required to do finer work, they should be ground thin as in Fig. 9. Others, on the other hand, maintain that they should be ground as in Fig. 10, that is, with a short "stumpy" end. In some respects both views are correct, because when the tools are required to do fine light work, as in modelling a comparatively flat design, a long, thin end to the tool enables it to be held at a less angle to the work, and so to cut a smoother surface by taking off a fine chip. This, however, would necessitate these tools being used only for this lighter work, and it would follow, of course, that two sets of tools would have to be employed. The better way is to make the tools more generally use-

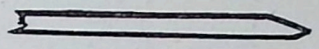


Fig. 10.

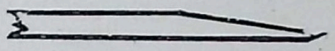


Fig. 9.

Fig. 11.

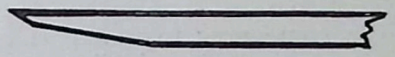
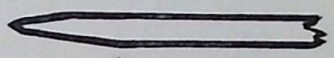


Fig. 12.



A

ful by making them so that they can be used for any purpose.

Carving tools, of course, have to do both rough and light work. For rough work, the end to the tools shown in Fig. 10 is much the best, because it is the strongest, and less liable to become broken.

Thus for general purposes the tools are much better ground to a short "stumpy" end.

The edge of a carving tool should be situated more towards the centre of the tool's thickness, and not, as in a joiner's or carpenter's chisel, in the plane of the face. Fig. 11 shows how a carpenter's chisel is sharpened, and Fig. 12 how the wood-carver's tool should appear. The reasons for this difference are that a wood-carving tool should cut off *small* chips, which should curl away very quickly from the edge; this could not so easily be done if the cutting edge was on an outside face of the tool; the carpenter's tool splits the chip to a greater extent because of this; a second reason is that the tool being comparatively thin, the edge is made stronger by being in this position. In using the grindstone, always have plenty of water, and use it freely; this prevents "firing" the tool by the heat produced by friction. The grindstone should be a fairly hard one; some are very soft, and, in addition to wearing away rapidly, are not so effective in cutting qualities. The face of a grindstone should be kept square and true. This is effected by, from time to time, placing a square iron rod, or sash weight, or some such article, across the edge of the grindstone, and keep rotating the

grindstone until its edge is worn down to a true face. Rotate the grindstone *away* from you, as shown by the arrow in Fig. 8. In grinding the flat tools, they can be ground from both sides, to throw the edge more into the centre of the thickness. With the gouges this is not possible. The outside of the curve can be ground; and to do this it is necessary to keep rocking the tool from side to side to ensure uniform wearing away of the steel.

Take note of the edge as shown at A in Fig. 12. This should always be kept sharp; do not round it over, as some are tempted to do; it has a very definite use as a fulcrum upon which to lever the tool's edge upwards when necessary. If it be taken off the tool is not so easy to work, it having a tendency to run into the wood and so split downwards.

Notice this with the V tool especially. In grinding a V tool it is much more useful for general purposes to have the point O a little behind the top corners M, as in Fig. 13; the dotted line shows the square line. Sometimes, for particular purposes, it is necessary to have it slightly projecting; thus it is advisable that two V tools be kept in a set—one ground in each manner.

We come now to that part of the sharpening process where oil and oilstones are necessary to

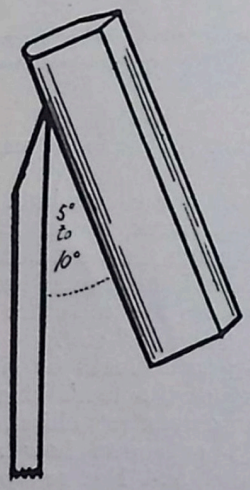


Fig. 14.

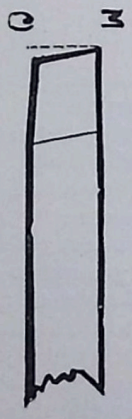


Fig. 13.

get the edge quite sharp, like that of a razor. It must be accepted that it is an absolute necessity to get the edge of a carving tool like that of a razor, as regards its keenness.

A flat oilstone in a case will be found to be, together with suitable slips, the best equipment. A good Washita stone or a Turkey stone are the best. Regarding the slips, a set of four Arkansas slips will meet all requirements.

The oil considered to be the best is neatsfoot oil, mixed with a little paraffin.

Having got the tools ground to a suitable edge (and it may be remarked that in grinding them they should not be ground to a very fine edge, but to *nearly* a fine edge: this enables us to keep the edge quite even and square all through the subsequent oilstone process), they can be finished off on the oilstone.

Place a little, not too much, oil on the flat stone, and work the tools from end to end, holding them at an angle of about 30 degrees. The precise angle depends somewhat upon the angle of the grinding; the oilstone angle being just a little greater than this. At each subsequent sharpening on the oilstone, the tool is held a little higher, until a time arrives when the edge has got to be too thick for effective use, and it has to be ground on the grindstone, and so again go through all the processes described above.

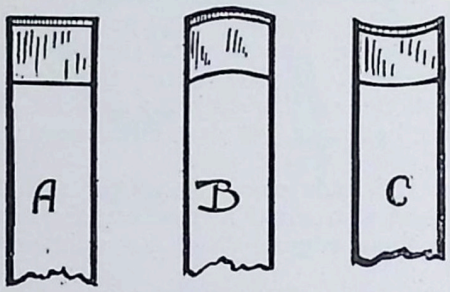


Fig. 15.

In the case of flat tools, they are sharpened on both sides on the flat stone.

Gouges, flutes, and V tools are sharpened one side on the flat stone, and on their inside edges by means of slips of suitable curves. Hold the slips at an angle to the face of the tool, to throw the cutting edge somewhat towards the centre of the thickness of the tool, as shown in Fig. 14.

All edges to tools should be quite square, or very slightly convex, but should never be concave. Fig. 15 shows these various forms of edge. A is right, B and C wrong, although B is a much better edge than C.

It will be found that after the process of sharpening by means of the oilstone and slips, a tiny "feather edge" has still been left on; this should be removed before the tool is fit to use.

This is removed by means of a "strop." The "strop" consists of a piece of soft leather, into which has been well rubbed a solution of emery powder in tallow. The emery powder should be the finest you can get; it is known as emery flour; the tallow—the ordinary article to be obtained at the oil and colour warehouses. The tallow is melted, and the emery flour mixed in until the mixture is fairly stiff, and it is then spread on the leather, and *well rubbed in*. The tool is drawn backwards on this like a razor, until the "feather edge" has quite gone, and a clean sharp edge remains.

To do the insides of gouges and fluters make a tapered circular stick, tapering from $1\frac{1}{4}$ in. to $\frac{1}{8}$ in., and cover it with a thin piece of prepared strop; this it will be found will fit all curves of the tools. A V-shaped piece similarly treated will do for the V tools.

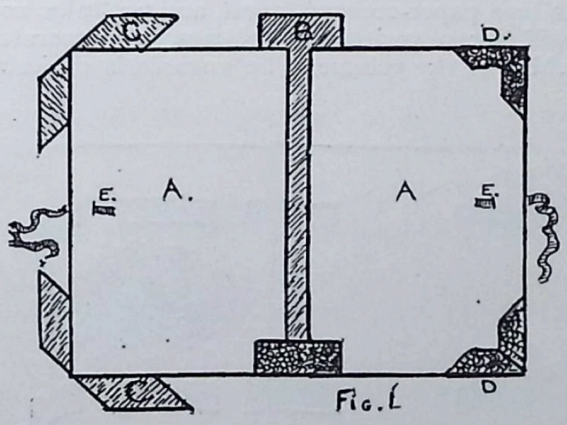
HERBERT TURNER.

NOTE.—Will our wood-carving readers note that we are always prepared to give advice upon receipt of full particulars as to their difficulties. Mr. Herbert Turner will answer correspondents fully in the Magazine every month. Envelopes should be addressed to the Editor, marked "Wood-carving." The next article of this series will deal with pierced wood-carving.—EDITOR, A. & C.

HOW TO MAKE PORTFOLIOS AND READING COVERS.

THE materials required are "bookbinders' millboard," some tape or narrow ribbon, various sheets of paper, and some ordinary wheat-flour paste. The tools are a T-square, a straight flat ruler, a sharp-pointed knife, a pair of scissors, and a paste-brush. For covering one can use leather, or cheaper substitutes, such as buckram, and printed cretonnes, or linens. Buckram is the best for the joints of the portfolios, and as a complete covering, if it is required to decorate when finished by the pen or brush. It is hard, with a smooth texture, and possesses the great advantage of neither stretching nor shrinking to any appreciable extent when paste is applied to it. Indeed, this latter attribute is so important that a word of warning may come in here—to test any other material before using it, and to discard it if it stretches or shrinks when wetted.

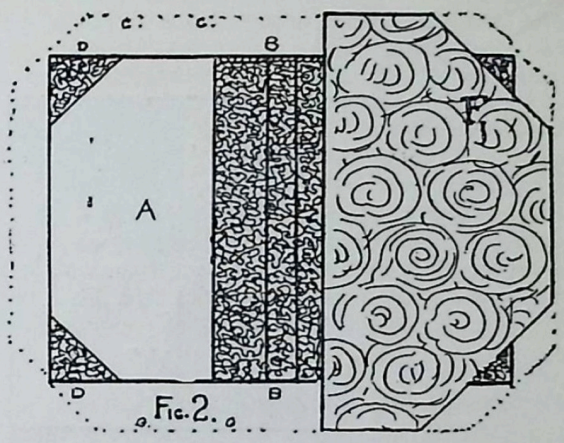
To begin with the practical construction: First make some thick wheat-flour paste. For this the flour should be mixed slowly, with cautious additions of a few drops of cold water until it is as smooth as cream. Then add quickly some boiling water in which a teaspoonful of powdered alum has been previously dissolved. Stir it constantly as the water is being added; and then pour back the whole into a saucepan and keep stirring it over a fire until it thickens to the required consistency. The result is a firm, adhesive substance that, owing



to the presence of the alum, will keep several days. Corrosive sublimate, a far more powerful antiseptic, is such a deadly poison that it cannot be recommended; a few drops of oil of cloves, however, will assist in its preservation and impart a fragrant odour to the paste.

It is necessary to have a firm, pointed steel blade —an ordinary penknife will do, but a "shoemaker's knife" is better; also a flat ruler, with a metal edge if possible, and some smooth boards for pressing the finished work, with a few bricks or other weights, unless a regular napkin-press be available.

As the first stage of the process is somewhat "messy," it is best to make a good batch of "carcases" in useful sizes, and keep them ready for after decoration when needed. Having decided upon the size, first, with the assistance of a T-square, mark your lines at true right angles upon the cardboard. Then, laying the piece flat upon a wooden board, or, better still, upon a piece of glass, place the metal edge of your ruler close to the pencilled line. Now, pressing very firmly upon the rule with the left hand, run a sharp-pointed knife lightly down



the edge of the ruler; repeat the cut, using more pressure again and again, until the severance is made. The process needs boldness and care, or a slice of one of the fingers of the left hand may easily be detached with the cardboard, if the knife should slip.

We will suppose a reading cover for a single number of ARTS & CRAFTS is the subject of the first trial. For this, two boards 9 by 11½ will be needed. This size is a quarter of an inch larger than the page each way. Next cut the pieces of paper for lining the inside of the covers the exact size of the page, 8¾ by 11. Then cut off a piece of the fabric, whether it be bookbinder's muslin, the "buckram" specially recommended, or ordinary stiff linen, such as that used for rolling window blinds, 14 by 3, and another of the same material, 10 by 3. Now paste these strips very thoroughly, allowing each to remain a few seconds before going over it again with the paste-brush. Lay the first with its moistened side uppermost upon a flat surface. Place your two pieces of cardboard (A A, Fig. 1) parallel upon this strip (B, Fig. 1) remembering (and this is very important) that the width you allow between them will represent the holding qualities of the finished portfolio. For a single number let them be not over a quarter of an inch apart, parallel with each other and with the edges of the strip; see also that they leave equal portions of the strip top and bottom for turning over. Now, turn over these pieces, and lay the strip 10 by 3 (which should be at hand ready pasted) to meet the turned over ends of the first strip, and thus complete the

inside of the hinge. Lay a sheet of paper right over the strip, and rub it with firm pressure to make the pasted material adhere smoothly; turn it over and rub down the other side in the same way. If properly done, the result is a rough portfolio, the complete foundation for all the after decoration, whatever it may be. To strengthen the corners, pieces of the same material used for the back strip may be applied (C C, Fig. 1). These turn over as shown in D D, Fig. 1, and whether allowed to be visible, as they are in Fig. 2,

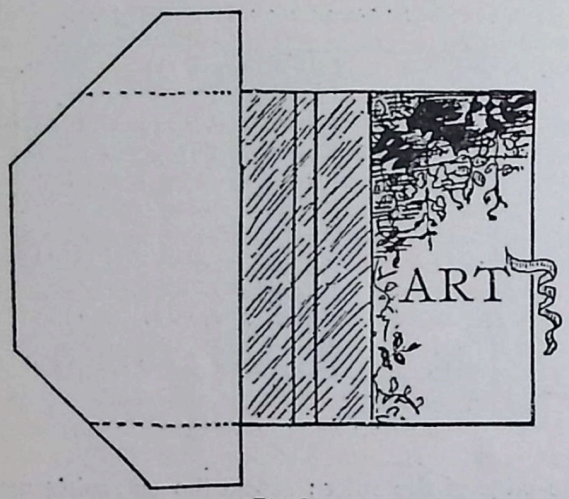


Fig. 3.

or covered over entirely, they improve both the finish and the lasting quality of the portfolio. They are not needed, however, on small portfolios, as, unless skilfully applied, they are apt to produce a clumsy appearance. Their proportionate size in C C, Fig. 1, has been purposely exaggerated, to explain their shape. Having proceeded so far, if you intend to finish the work in the ordinary common style, paper of any variety, whether plain or previously decorated, should be cut to the shape F in Fig. 2, and pasted on as there shown. It will be seen that the paper covers some of the material used for the back and corners; so, in planning out your materials, allowance must be made for this necessary overlapping. A quarter of an inch is sufficient, but it is better to allow too much than to find by too great economy you have spoiled the whole.

When the whole portfolio is to be covered (with a patterned silk or linen, or a plain material for decorating) it is called "whole binding," and a shape shown by the dotted lines G G, upon Fig. 2, will be required. For another style, known as "Roxburgh," or "quarter-binding," shown in Fig. 3, the material used for the sides covers the corners, but yet allows the back strips to show; in this instance the back piece is arranged to be much wider than for the so-called "half-binding" of Fig. 1.

It is often impossible to mount thin silk directly upon cardboard; indeed, it should never be attempted without a previous covering of white paper, if the silk be white, or a suitable colour to match in other cases. If a sheet of paper be pasted and the silk laid smoothly on and dried under pressure, it may then be used as easily as ordinary paper. This, however, sometimes stains the silk. The best plan is to cut the paper to the exact size required, to gum the silk to it, using a very thick mucilage, at the edges only. This, when dry, may be cut to a straight edge—otherwise always a difficult task—and applied as readily as if it were a firm fabric. Finally, paper, slightly smaller each way than the cover, should be neatly pasted on the insides.

How strings to tie the portfolio should be affixed is shown in Fig. 1, although they are really not applied until the stage shown in Fig. 2; but it was easier to explain the manner of their insertion in that diagram. After the outer covering is pasted on, but before the inner lining sheet is fixed to each cover, a slit should be cut with a sharp-pointed knife right through the cardboard. Through this the ribbon should be passed, and its loose end pasted down. The lining paper may be trusted to secure it finally. When wide ribbons are used as decorative features of the cover (see Fig. 4), they are passed through in the same way. This needs some care, but can be accomplished with a little patience. Where the fabric is too rough in texture to permit lettering by ink or paint, it is best to embroider the title required on the ribbon. Paint it thereon in opaque water-colours after it is fixed in place.

When a portfolio is intended to preserve a book, such as a paper-covered novel, and not to be used at will for a variety of volumes, a preparatory stitching of the volume to be encased is desirable.

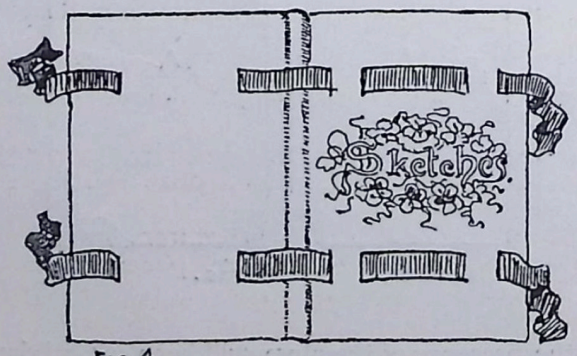


Fig. 4.

But if the cover is to be used for blotting-paper, for a railway time-table, or the successive numbers of a periodical, it is best to arrange strings or elastic at the back to tie the contents in place. If some narrow ribbon be passed from the inside through the back piece about half an inch from the top and from the bottom, and the ends brought over top and bottom and tied in the middle of the open pamphlet or magazine, the contents are easily removed and replaced at pleasure. G. W.

The Art Schools.

ROYAL ACADEMY SCHOOLS.

ON December 9 the annual distribution of prizes took place. A large number of Academicians were present, and Sir E. J. Poynter presented the prizes to the students, and afterwards gave an address. The following is the list of prizes and prize winners :—

Historical painting, gold medal and travelling studentship (£200), W. E. Gladstone Solomon.

Landscape painting, Turner gold medal and scholarship (£50), Alice Palgrave Walford.

Landscape painting, Creswick prize (£30), Ernest Townsend.

Painting of a figure from the life, silver medals, first, George Frederick Bird ; second, Francis E. Fitzjohn Crisp.

Painting of a head from the life, silver medals, first, W. E. Gladstone Solomon ; second, Daisy Radcliffe Clague.

Design for the decoration of a portion of a public building, prize (£40), Jacob Henry Amschewitz ; honourable mention, Carron A. C. Oliver Lodge.

Design in monochrome for a figure picture, Armitage prizes, first (£30) and bronze medal, not awarded ; second (£10) Margaret Isabel Dovaston.

Cartoon of a draped figure, silver medal and prize (£25), Kate Elizabeth Olver.

Set of six drawings of a figure from the life, first prize (£20) and silver medal, Margaret Isabel Dovaston ; second prize (£15), Samuel Rahamin Samuel ; third prize (£10), Mabel Genevieve Dicker.

Perspective drawing in outline (open to painters and sculptors only), silver medal, Daisy Radcliffe Clague.

Composition in sculpture, gold medal and travelling studentship (£200), Thomas John Clapperton.

Model of a design, first prize (£30), George Duncan Macdougald ; second prize (£10), Ferd. Victor Blundstone.

Set of four models of a figure from the life, first prize (£20) and silver medal, George Duncan Macdougald ; second prize (£15), Frederick Lessore.

Design for a medal, silver medal and prize (£10), George Duncan Macdougald.

Model of a bust from the life, silver medal, first, not awarded ; second, Helen Frazer Rock (disqualified, because she had won the same prize before).

Design in architecture, gold medal and travelling studentship (£200), Leslie Wilkinson.

Set of architectural drawings, silver medals, first, Alfred Alexander Carter ; second, Albert Edward Brooker.

Set of architectural designs, prize (£25), Leslie Wilkinson.

Set of drawings of an architectural design, first prize (£15), Alfred Alexander Carter ; second prize (£10), William Harvey.

Original composition in ornament, prize (£10), William Harvey.

Perspective drawing in outline (open to architects only), silver medal, no competition.

Architectural design with coloured decoration, silver medal, no competition.

The Landseer scholarships in painting and sculpture of £40 a year each, tenable for two years, have been awarded—in painting, to Francis E. Fitzjohn Crisp and George Frederick Bird ; in sculpture, to Louis Fritz Vai Roselieb and George Alexander. Landseer scholarships of £40 a year each, tenable for one year, have been awarded, in painting, to Harold Notley ; in sculpture, to George Duncan Macdougald and William Charles King.

The success of women students is especially noticeable. Until last year they were not allowed to compete for many of these prizes.

Sir E. J. Poynter's Address.

The President, addressing the students after the prize distribution, congratulated them on the fact that, taken as a whole, the exhibition of students' work this year stood well in comparison with former years. Of the studies in painting from life almost all were good. He would fall back on first principles, which were apt to be forgotten in the present-day chatter about art, and which were worth keeping in mind when something like anarchy in art was fostered by irresponsible talk—a source of danger to the student who found the trivial works, often only the sketches of beginners who had everything to learn, were publicly lauded out of all proportion to their merit. Such ill-considered judgments were a snare to the beginner who found that, with whatever talent he might possess, but little effort was required to make an ephemeral success. The result could not be but bad for any artist who wished to rise above the standard of mere facile production. Four years ago he had ended his address to the students with the lines of Shakespeare's homily, where, as if seized by a sudden inspiration, he poured out in language unsurpassable for splendour his conception of man as the primal masterpiece of creation, as conveying, with a directness which could not be more apposite if it were intentional, the ideal to which great art should aspire. He would recall them again ; they might serve as a text for his discursive discourse on the dignity of man as a subject of treatment in art : " What a piece of work is a man ! how noble in reason ! how infinite in faculty ! in form and moving how express and admirable ! in action how like an angel ! in comprehension how like a god ! the beauty of the world ! the paragon of animals ! " It was clear that it was the conception of man

not in actuality, but in his capacity and capability for the highest beauty and the highest purposes in his near approach to the divine that was set forth in these words: and, from the days when the Greek artist conceived his gods as man in his most perfect form, some such lofty ideal had been present to the minds of all artists who were moved to the highest flights of their art.

Christianity and the various phases of asceticism consequent on a totally new aspect of the destinies of man swept away the Greek view that it was through physical beauty that the place of man in creation was best dignified; but it was long before the rapidly growing and wide-spreading tree bore fruit. When, after the long period in which architecture was the only art which really flourished, and when the revival of the arts of painting and sculpture took place man was no longer the "paragon of animals," but a creature born to suffering and unhappiness. He did not thereby suffer indignity; the beauty of his acts and his beliefs replaced the beauty of his form. The great theme of the Redemption, the suffering of the Saviour as man, works of charity and mercy, the miracles of saints, and in a still more lofty phase the joys and terrors of the Resurrection and the glories of Paradise gave scope for the representation of beauty of another order than that of the Greeks. After referring to the work of Michael Angelo, who realised for himself the Greek view that the human form is the highest to which the artist could aspire, the President alluded to other schools where the sense of beauty and grace was not predominant. In the Dutch school, though the subjects were frequently of a low and ignoble character, the human figure was not treated in an ignoble way. It was reserved for quite modern times to treat man, and especially woman, from a sordid, obscene point of view, and to find the horrors of the modern realistic and so-called impressionist school belauded as if they were a new departure which had banished for ever the beauty and dignity of man, which, however, were fortunately inherent in the true artist. The students whom he was addressing were assured against so very simple a way of advertising themselves; but they should be averse from attempts to startle people by eccentricity, under the idea that it was a sign of genius. The object of the teaching given them was not to determine for them what form their future practice should take, but to equip them with the necessary qualifications for doing well and in a scholarly manner whatever they undertook. Michael Angelo, the most potent spirit of the Renaissance, sprang nothing startling on the world; his genius showed itself in an exceptional power of doing good work from the beginning. Was it possible to apply the principles of the Renaissance to the present day, to achieve the same results? Had he been holding up examples which it was impossible to follow? He would reply that, setting aside the fact that the conditions of modern life are opposed to it, the traditions of great work were not with us to help us. Schools such as those of Greece and Florence and Venice took centuries to build up. Our own great artists were isolated instances in the last school, where the tradition was limited to one formed by the genius of Reynolds. Concluding his address, the President reminded the students that, whatever line of work they adopted, it was always in their power to do good work, and, if they kept in mind the words of the great poet which he had quoted, they would have the dignity of the human figure always before them, and would never degrade their art.

MACCLESFIELD SCHOOL OF ART.

THE annual meeting and prize distribution was held in the Town Hall last month, when Mr. S. J. Cartlidge, Chief Inspector for Art of the Board of Education, distributed the prizes and delivered an address.

Mr. J. Ward (the headmaster), in submitting a report of the school, stated that the number of pupils was 227, against 248 of the previous year. He stated that in the report of former years he had the pleasure of stating the amounts of the County Council grants in aid of art instruction, but, unfortunately, there was nothing to report this year in this connection, the County Council having abandoned the granting of any special aid to the school. The small evening art scholarships which were in the majority of cases won by the students of the school have been abolished by the County Council, so this authority by its latest action denied itself the means of judging the efficiency of the schools of art in the county. In the eyes of the Board of Education, and in accordance with the Education Act of 1902, schools of art are legal institutions where secondary or higher education is given, and are open both day and evening for secondary education of a special kind; but, while the Secondary Schools for general instruction in the County, whether endowed or not, are being filled with scholarship students from the elementary schools at a cost of over £4,000 by the County Council, there is not a single scholarship student in any School of Art in Cheshire who has his fees paid by the County Council. The only art scholarships open to students in Cheshire, and offered by the County Council, are not allowed to be held at any School of Art in Cheshire, the successful candidate being compelled to go to London. The only inference that one could gather from this was that the Cheshire County Council must be of the opinion that there are no Schools of Art in Cheshire of sufficiently high character to provide art education for the average student. Fortunately for the Schools of Art in all other counties of England, this opinion was not held by their respective Councils.

The total number of National Competition awards gained by the school were nine, namely, one silver medal, four bronze medals, and four book prizes. The Board of Education has honoured Thomas Cartwright, one of the students, by purchasing his bronze work in model design. This work was illustrated in ARTS & CRAFTS last September. The "Owen Jones" prize, given by the Society of Arts, was awarded to Arthur Bickerstaffe, for his design for a silk hanging, and Geo. W. Barber was awarded a prize for the best design for a woven hanging.

In the Advanced Art Examinations 112 students were examined in various subjects, 44 passed first-class, and 67 second class. It may be mentioned that in the free-hand examination 28 candidates sat, and 22 of these passed first class and six second class.

Other successes were mentioned which had been gained by present and past students.

A NEW AMATEUR ART SOCIETY.

A SOCIETY is now being formed under the presidency of Lady Florence Duncombe to be called the Calwich Abbey Amateur Art Society. The subscription is to be 5s. per annum for one person; for a family, 3s. 6d. for the first member and 2s. for each additional. Exhibitions will be held and a charge will be made of 1s. for each article exhibited. Those who are willing to assist should write to Lady Florence Duncombe, Calwich Abbey, Ashburne.

The Aims and Needs of Art Schools.

BY FRANCIS FORD.

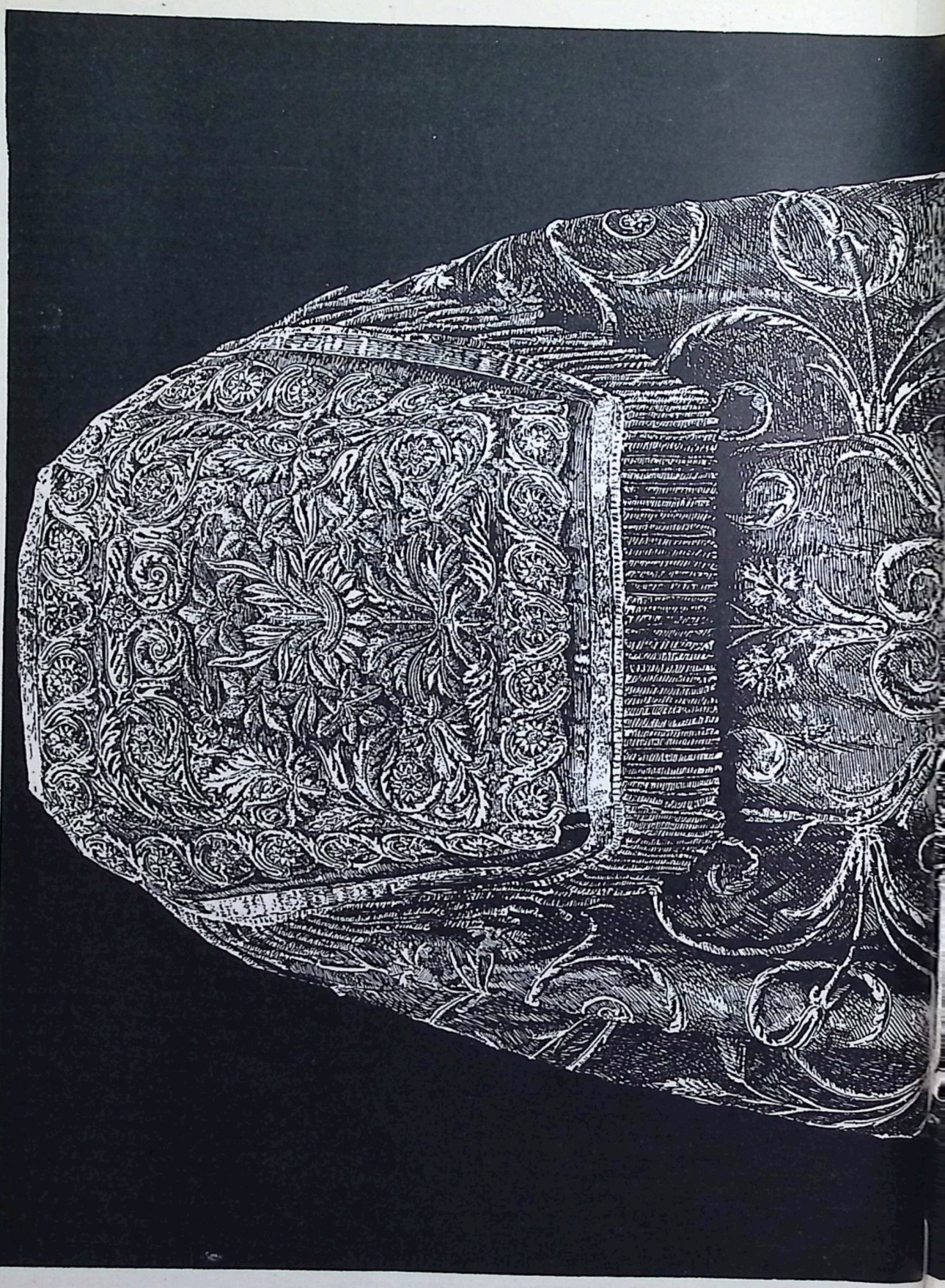
In compliance with an invitation circulated by the Committee of the International Art Congress, held recently in Venice, Mr. Francis Ford, the Secretary of the Society of Art Masters, suggested that the aims and needs of Schools of Art would be a suitable subject for consideration. The Secretary of the Congress, Signor Forti, immediately asked Mr. Ford to read a paper on this important subject, but as he was not able to be present in Venice during the Congress, it was finally arranged that Mr. Ford should prepare a paper and send it to Venice to be read. There is no one better qualified to write on such a subject than Mr. Ford, and he has opened so many points for discussion and has dealt with them so clearly that by his kind permission I am reprinting his paper in full.—Editor A. & C.

THE aims of Schools of Art, or rather their one paramount aim, may be briefly stated. It is the artistic excellence of the multitudinous industries which depend for their very existence on the teaching of applied Art in its manifold forms, in conjunction, of course, with the corresponding perfection of manufacturing processes. The vast comprehensiveness and national importance of this aim may be readily understood when we remember that it includes within its scope ceramics, glass, enamels, plate and plated wares, furniture and wood-carving, carpets and tapestry, silk and other fabrics, metal-work, jewellery and personal ornaments, lace, external and internal decoration, &c. In these and other branches of industry the first essential is necessarily utility or fitness, the second beauty of form and adornment, which in all ages and in all parts of the world, civilised and uncivilised, has been an irresistible object of human desire. And it is this to which, since the commencement of the Victorian era, Schools of Art have in England devoted their attention, with such success that whereas in years gone by we were greatly dependent for designs on our Continental neighbours, we have now a host of English designers trained in our own schools; and I am not afraid of awakening international prejudice when I state that their work not unfrequently elicits the generous admiration of our commercial rivals.

Unfortunately for these schools their work does not become sufficiently familiar to the general public, and consequently their aim is insufficiently appreciated, except by the comparatively few who are associated with their working and participate actively in their management. It is true that for a few weeks in each year the premiated works in the National Competition (which is open to all Schools of Art throughout the Kingdom) are exhibited at South Kensington, but in England we have to go back twenty years for a more comprehensive display—a display commensurate with the supreme importance of this section of national education, such as was then seen at the International Health Exhibition, where the great central hall was filled from end to end with the designs or executed works of our students in all branches of applied Art. I mention this, not for the purpose of vaunting our own work, but to emphasise the national importance of such occasional exhibitions on a large scale, and the desirability of having also in the metropolis a permanent representative display of the work of the schools, such as was assuredly contemplated in the earlier days of art teaching in England. People are naturally more ready to comprehend what they see than what they hear, and whilst those who have had no opportunity to understand aad appreciate the teaching and methods of Schools of Art are too ready to disparage them, their prejudices may be removed if results are brought under their observation in a visible shape. Such exhibitions, therefore, cannot but conduce to the advantage of the schools, which are thus raised in the opinion of the public, whose estimation of the work of the Art Master, so commonly underrated, is enhanced in a corresponding degree.

It is only reasonable to suppose that when scholastic institutions, such as Schools of Art, have been in existence for nearly 70 years, the best methods of fundamental teaching are likely to have been ascertained. From time to time, however, new lights arise. We are told that the methods of the past have been altogether wrong; that it is (for example) ridiculous to attempt to teach design; that drawing, like Dogberry's reading and writing, "comes by nature"; that the pupil should be left to the undisturbed development of his own artistic faculty, and so forth. But the public will do well to beware of faddists of all kinds, whether it be in medicine, literature, or Art, and not be too ready to discard the wisdom gained by past experience in favour of some new nostrum. It is undoubtedly true that the only foundation of all Art is sound draughtsmanship, and that the perfection of draughtsmanship is seen in its ultimate attainment —the human figure: without this none can hope to reach high-water mark in the application of Art to design, or in any other artistic direction.

And here reference may be made to a complaint which perhaps is not so frequently heard now as it was in former years—that our Schools of Art are chiefly instrumental in producing inferior amateur artists—that it is beyond their province to increase the supply of portrait and landscape painters. This, however, is not the fault of the teaching: it is necessarily incidental to it. It is impossible, and it always will be impossible, to restrain the student from efforts in this direction, which are occasionally crowned with success. And should it not be a pride, rather than a reproach to Schools of Art, if they are the means of developing any form of artistic ability; if at rare intervals they have the opportunity to foster and encourage the ambition



GOLD-EMBROIDERED CHASUBLE. ITALIAN RENAISSANCE.

of a student who becomes an able exponent of Fine Art; if such names as those of Poynter, Ouless, Fildes, Clausen, Drury, and many others who have attained distinction in painting and sculpture, are to be found amongst those who have been students in these Schools in the earlier stages of their career? Indeed, may not the painting of portraits and pictures be fairly included amongst our national industries; for it would be difficult to discriminate, in principle, though there is a mighty gulf in degree, between the utility of the design which decorates a wall and the picture which hangs upon it and gives lasting delight to its possessor. The strict utilitarian, carrying his ideas to their fullest significance, will find that all Art is superfluity. But it is superfluity without which one would not care to exist.

The needs of Schools of Art may also be briefly stated as sufficient pecuniary resources, capable masters, industrious students, discreet management, and adequate inspection by experts. These are in a great measure inter-dependent, and there are many considerations underlying them, to some of which I may allude. In the early days of the English schools it was hoped by the too sanguine authorities of the time that they would some day become self-supporting. But it has long since been found that they must always be largely dependent on State assistance. Nothing indeed is more certain than this, unless it be the fact that their maintenance at the highest possible standard is indispensable to the national industries.

In England these schools and others are therefore largely subsidised by the State, and of late years the funds provided for instruction in Art, Science, and Technology have been for the most part entrusted to the administration of the local authorities. But as Art teaching is necessarily but little understood by public bodies, it is much to be regretted that the Government did not retain sole control of Schools of Art, of their masters, and of everything connected with them, considering their paramount importance to national interests, and the danger to be apprehended from the controlling action of persons who, however well-intentioned, may be oblivious to the value of Art teaching. It has for years been a matter for remonstrance in England that undue preference is shown to Science as compared with Art, for it is much easier for students with only a modicum of scientific teaching to earn substantial grants for their schools than it is for Art students. The natural consequence is that Art instruction is apt to be looked upon by local authorities as quite a secondary matter, the status of the Art Master is belittled, and in any adjustment of expenditure his remuneration is likely to be the first to suffer. Considering the high qualifications required of the aspirant to the Art Master's certificate, and the severe and prolonged training he has to undergo, it may be said that he is, as a rule, worse paid than the member of any profession demanding corresponding attainments. Moreover, after receiving, as the result of years of application and of proved ability, the certificate of the Board of Education, entitling him to undertake the head mastership of a School of Art, he has no security of tenure, and is liable at any time to be dismissed from his post without pension or compensation of any kind. Since the control of Schools of Art by their committees has become subordinated to the rule of the County Councils and other local authorities, who hold the purse-strings, this has become a very real danger, owing to the rearrangements consequent upon the absorption of Schools of Art in the establishment of large composite institutions or polytechnics, in which Science and Art, and a variety of things which are neither Science nor Art, are taught, Art becoming thus only one of many subjects, instead of enjoying the advantage and prestige of a distinct and separate establishment. These changes necessarily involve extensive reorganisation; reorganisation affords opportunity for adjustment of salaries, precedence in control, and other matters; and the private interests of masters are not allowed to stand in the way of "schemes." In short, another king has arisen who knows not Joseph, and Joseph has not unfrequently to go to the wall.

There is therefore great need of some security of tenure, in order that men who have successfully conducted Schools of Art for a long series of years may not find themselves with diminished income, or perhaps sent adrift, with little chance of success in competing with younger men for a fresh appointment, at a time of life when they might reasonably expect generous consideration. It is manifestly wrong that, except for incapacity, neglect of duty, discreditable conduct or misdoing, any master teaching under authority granted by the State should, after long service, be liable to such treatment at the instance of County Councils, and this, it may be, notwithstanding the remonstrance of his School Committee, who are familiar with his worth and work.

I would mention one other need which has been greatly felt in England—need of the prohibition of the inspection of Art teaching by persons who are not specially qualified for the work. It needs no argument to show that gentlemen occupying the position of Government Inspectors should not be permitted to inspect or report on work with which they have no practical acquaintance. But in England, in the past, this evil has been the source of constant irritation and heartburning, and although Schools of Art are now under the inspection of properly qualified Inspectors, the same cannot be said of other institutions; for in Secondary Schools, especially, Art instruction continues to be inspected and reported on by men without Art qualifications, the result being that school authorities are misled by their reports, whilst the Art Masters are discredited and have in some instances been dismissed. It is but reasonable to urge that no one is so well qualified for this important work as those who have had long experience as Art Masters, and are therefore practically acquainted with requirements, methods, and difficulties which they themselves have had to meet, pursue, and overcome.

In conclusion, I would express a hope that these brief and imperfect references to some of the aims and needs of Schools of Art, and to what I conceive to be defects in our own system of administration, may be the means of eliciting information as to the mode in which Art teaching and Art masters are dealt with in other European countries.

FRANCIS FORD.

THE CAMBERWELL SCHOOL OF ARTS AND CRAFTS.

THE annual exhibition of the work of the students attending the school and its affiliated centres took place last month, and a wonderful display it was, comprising specimens of black and white design, architectural and furniture designs, lettering and illumination, bookbinding, carpentry and joinery, cabinet making, wood inlaying, dress designing, embroidery, enamelling, house painting and decorating, jewellery, lithography, silver smithing, stained glass work, stone and wood carving, artistic typography and modelling.

We have seen many displays of school work; but, with, perhaps, one exception, we cannot recall having ever seen such a general level of excellent and clever workmanship before. One could hardly find fault with a single department: some were naturally more advanced than others, but all seemed to be working in the right direction, and the principal, Mr. W. B. Dalton, has every reason to be proud of the work he has accomplished in so short a while. We noticed at the Exhibition a list of the London County Council Scholarships gained by the school, and this list speaks for itself as to the progress made. In 1898 three scholarships were awarded to the school; in 1899, five; 1900, 17; 1901, 26; 1902, 25; 1903, 32; 1904, 39; and 1905, 56.

It is quite impossible to do justice to the individual exhibits, for the space at our disposal this month is limited, and there was so much worthy of special attention.

There was a case of needlework, every piece of which was well worth studying, both for execution and design. We specially noticed an embroidered fire screen by Miss H. Pascall, exquisitely worked; an embroidered sampler by Miss R. K. Evans, in which the gold thread had been used with wonderful effect; a charming embroidered bag by Miss L. Tomalin, clever in design and selection of colour; and a book cover by Miss D. Jones, which it was difficult to believe had been worked by hand, so minute and perfect were all the stitches. The stole by Miss B. Venables, which we reproduce on another page, showed excellent taste in design and colour; it was worked on brocaded silk, the selection of which was particularly fortunate. Six dainty embroidered collars were exhibited by Miss J. M. Dight, and an embroidered cushion cover by Miss D. Wilks gave evidence of a carefully selected colour scheme. A portière by Miss G. Coleman was noticeable for the well-grouped design. Miss E. Wright, the teacher of the embroidery class, must be congratulated on this unique display by her students.

The black-and-white class is another strong feature of the school. The only fault we have to find is that the students are perhaps too much inclined to one style of work, and this is doubtless owing to the strong personality of the two masters, Mr. Reginald Savage and Mr. H. Cole. The work of J. W. Campbell is very strong and vigorous, and L. Heinlin showed some coloured black-and-white illustrations which were notable for the excellent drawing and the good taste of the colouring. The latter student had also some remarkable woodcuts which were boldly drawn and showed that he well understood the limitations of this medium; we liked best the one of the Swiss mountaineer. Miss V. B. Kell's designs for a pack of playing cards were very clever; they gained, we believe, an award in the National Competition of last year.

In the lithography section there were several copies of Holbein's drawings; these are undoubtedly excellent examples for a student to reproduce, needing as they do such delicate handling and dexterous drawing. A. Haynes showed a clever print of a pencil drawing in which the delicacy of the pencil tones had been faithfully reproduced. L. Heinlin again distinguished himself with an original lithograph, a difficult subject which had been treated successfully.

There was a fine display of bookbindings showing good workmanship in the "forwarding" and excellent taste in the "finishing." Among the best were a large book by J. Chapple in blind and gold tooling, a book by D. Rye, in which the pattern, made up entirely of gouges, lines and dots, showed great ingenuity in the arrangement of the interlacing, and was very well tooled; a simple little binding by A. Wright displayed good taste, and there was a brilliant piece of work by W. Terry, the design for which was very attractive. We must not omit another book by J. Chapple, "Omar," bound in light green with dark green inlay. The pattern, made up of bunches of grapes and leaves, was cleanly tooled in gold, and the lengthy title going twice round the front cover was cleverly arranged so as to form part of the design.

When we came to the leather work we expected something good, as a matter of course, from Miss Florence Hornblower, and we were not disappointed. The gauntlets which gained a silver medal in last year's National Competition were shown, and we again admired their wonderful workmanship. This lady also showed, among other things, a charming little book bound in embossed calf.

The cabinet work class was chiefly represented by W. Gilby, who showed a cabinet of simple design and sound construction, the doors of which were inlaid, and S. Willis a well-designed cabinet of a small bookcase and drawers, the fitting of which were perfect.

G. Millar was very successful with his stained glass window, and we were delighted with the painted head by J. W. Hogan, which was an exquisite piece of work. Miss V. B. Kell showed a charming cartoon, "Autumn," for stained glass, the figure being well drawn, and the idea cleverly suggested. We shall hope to see this carried out in stained glass at a future exhibition.

There was a good display of lettering, some of it being on a very large scale. Two pages by Miss R. Evans were very attractive owing to the use of an excellent blue which contrasted well with the black lettering.

A new class for iron work, started only recently, showed good progress. An iron hinge by S. Stuttig and a piece of work by W. Bousfield were both well done.

Among several carved and gilded frames the one that attracted our attention was by W. E. Grimwood, a very simple arrangement of leaves. Miss V. B. Kell showed in this section a delightful water-colour drawing, "A Thanksgiving," noticeable for its decorative composition and charming colour. The drapery of the figure kneeling in the foreground was well drawn, and the picture was one of the gems of the exhibition.

There were several pieces of interest among the metal work and jewellery cases. A very attractive casket was shown by Miss L. Burlingham, the outer cover of which was of shagreen (shark skin) bound with silver corners. This was well finished off, and included a padlock with a delicately wrought key, studded with turquoise. A silver candlestick by J. Parkinson, now, we understand, the Head Master of Swindon School of Art, showed evidence of clever use of the tools, but the design, we fancy, would have been improved by keeping the base more flat. This candlestick was set with four enamels of beautiful colour. There were too good buckles, one by Miss G. R. Evans, set with opals, in which a very good effect had been obtained by piercing. Another one, by A. Allport, which had silver bosses set with lapis lazuli, with twisted wire ornament, was extremely dainty.

The stone carving of W. H. Palliser and R. Gross deserved praise for careful execution.

The work exhibited by the branch schools, of which there were five—the Paragon Evening Art School, the Blackheath Road Evening Art School, the Sussex Road Evening School, the Hackford Road Evening School and the Sumner Avenue Evening School—showed great merit, the life work of the latter being particularly good. The embroidery class of the Blackheath Road School showed some good work, among which we noticed a sampler by Miss C. Burton.

We cannot leave this exhibition without referring to the work of the typography class, which has been but recently started at the Camberwell School. This class is under the direction of Mr. W. H. Amery, who kindly showed us over the workshop. A more perfectly fitted composing room we

have never seen, and the careful selection of types, and the general orderliness of the whole arrangement gave at once a good idea of the admirable lines on which Mr. Amery is working. A machine of the very latest type is installed, a "Phœnix," which enables the students to include half-tone printing in their course. There are not, we believe, more than two printing classes at present being run in London. Why, we cannot say, for the need of art education in printing is as urgent, we should have thought, as in any trade. The compositor who undertakes display setting has immense scope for good taste, but hitherto the idea of a well-set page has been to crowd in as many different founts of type as is possible. Mr. Amery has cut right away from this, and has started his students with a few carefully selected founts, and in most cases he keeps to the one fount throughout in each piece of work. Some of the few examples we saw were excellent, and we believe that when once apprentices hear of this class being opened, the authorities will rapidly have to add another room to their present accommodation. A. F. P.

EMBROIDERED STOLE BY MISS VENABLES (Camberwell School of Arts and Crafts), worked in shaded floss and gold thread on cream brocade

ACTON AND CHISWICK POLYTECHNIC.

THE annual prize distribution and exhibition of the above Polytechnic was held on the 19th of last month, and the Right Hon. Lord George Hamilton distributed the awards and addressed the students. The chairman, Benjamin Hardy, Esq. (chairman of the Polytechnic Committee), also spoke a few words of praise and encouragement. The exhibition of the work of the art classes was held in their respective workshops.

By far the largest and best exhibit was that of the metal class, though it seemed a pity that so much of the work was confined to practically one shape. The exhibits were nearly all alms-dishes, plates, and trays. There were only solitary examples of other forms—a flower-pot, a photo. frame, and a few mirror frames. They all, however, showed graceful design and neat workmanship. Among them several hand-some trays in repousséd brass and copper by Daisy Jockel, a circular salver, decorated with a design composed of bats, being particularly good. Mrs. Hardy showed an attractive repoussé copper sconce, which was good in design. She also showed a small photo. frame and tray, worked in pewter. Constance de Pothonier exhibited a brass tray, with Celtic design, and also a circular plate. Other repoussé plates were exhibited by Mrs. Morton, Miss Adcock, and Miss Gould. We liked very much a large brass tray executed by Mrs. Lunn, the design being particularly happy. There were several other exhibits which, unfortunately, we cannot report, as they bore no name, chief among them being a large repoussé copper mirror frame. In another part of the room some beautiful enamel pendants

were shown, the work of Adah Bilton and Sophy Eva, also a buckle and set of buttons by the same ladies. In the painting and drawing division excellent work was shown. A. V. Barrett exhibited a large cartoon for a stained glass window. Dorothy Parlby, who won a large number of certificates (among them a local free studentship), showed, in addition to some plant and flower studies, a very clever drawing entitled "The Débutante," representing the New Year coming in and the Old Year going out. Miss Hedwig Schwaben, who was also awarded many certificates, exhibited several excellent plant studies and also a design for an afternoon tea cloth. There was a sheet of designs by Grace Dobson, and studies of sweet peas by Mildred Layton, who, in addition to other plant studies, showed two very good examples of stump shading. Miss Dora Lunn, a very talented young lady, who obtained a free studentship, tenable at the Royal College of Art, and a number of other honours, also showed some delicate plant studies, a Persian design for outline, and also some decorative lettering. Doris Cohen showed some clever black and white designs and Maud Parsons a large sheet of tail-pieces. Mrs. Finch exhibited two interesting pen-and-ink drawings, and Henry Wilkins showed a well-designed panel. There were a number of other exhibits, reference to which we must omit for want of space. The exhibition was, on the whole, excellent, the standard of work throughout being unusually high.

Among the chief awards to students were:—Dorothea Cohn, a Local Free Studentship; Dora E. Lunn, a Free Studentship, tenable at the Royal College of Art, the King's Prize, five first-class and seven second-class certificates. Agnes Parsons and Dorothy Parlby, Mr. Benjamin Hardy's (equal) prize for general proficiency in the School of Art and Local Free Studentships. The former also gained two first and eight second-class certificates, and the latter three first and four second-class certificates. Hedwig Schwaben gained four first-class and seven second-class certificates.

SIR JOHN CASS INSTITUTE.

THE third annual distribution of prizes and certificates to the students took place last month. Sir Owen Roberts, the chairman of the governing body, occupied the chair. Mr. George Baker, one of the committee, opened the proceedings, and referred to the rapid growth of the school. He also expressed great regret at the resignation of Mr. Rathbone, the head of the Arts and Crafts department. Mr. Rathbone, he said, joined the Institute at its start, and the ability and the energy he displayed then in the organisation were most valuable.

The chairman then introduced Sir W. Martin Conway (late Slade Professor of Fine Arts, Cambridge University), who distributed the prizes and addressed the students.

In the course of his interesting address, Sir Martin Conway spoke of the general impression of technical education as being the Greek for art education, and compared the industrial side with the scientific. Science, he remarked, is concerned with "what," art with "how," and referred to the happier life of the artist who created, while the scientific man thought. After a vote of thanks to Sir Martin Conway, the company adjourned to the class-rooms, where there was on view an exhibition of the students' work.

An interesting feature was the section devoted to the work of the teachers. Here Mr. H. Stabler (head of the Arts and Crafts department) exhibited a panel of repoussed copper, some jewellery, and a beautiful silver chalice cup set with enamels; Mr. G. E. Kruger (assistant drawing master) some of his cartoons done at the Royal College of Art, which we have referred to several times before in the Magazine. Mr. Gilbert Bayes (modelling) showed one or two of his characteristically brilliant groups of charging horsemen, so wonderfully full of movement and dash. There was also a finely modelled nude figure. Mr. Signorelli (repoussé) showed numerous examples of his really marvellous workmanship. Never have we seen a modern repoussé worker accomplish so much with his tools as Mr. Signorelli. There was one piece of silver repoussé which had been copied from a painting. The measurement of the work was about 8 by 4 in., yet the modelling of the numerous figures and the treatment of the drapery was perfect. Another piece of fine workmanship was a steel ring damascened with gold.

Finally, there were a few pieces of raised metal-work by Mr. Hughes. The work was so excellent that it was really difficult to realise that these pieces had been raised by hand. The shapes were so perfect and the fittings so well finished that the writer had to disobey the regulation "Not to touch the exhibits" for the mere pleasure that it afforded him to handle work of this kind. The designs were also admirable. They were quite simple, and in each case gave full play to the beautiful surfaces of beaten metal.

We cannot leave this exhibition without congratulating Mr. Harold Stabler, the head of the Art department, on the excellence of the whole display of the students' work during this first session of his responsibility as head. We are sure that no fitter man could have followed the footsteps of his worthy predecessor, Mr. Rathbone.

NORTHAMPTON INSTITUTE.

THE annual prize distribution and exhibition of the students' work took place on December 8. The awards were presented by Sir William Preece, the chief awards in the Art School being: John Allan, first prize, chasing; Herbert J. Rowley, second prize, for goldsmiths' work. The Institute prizes offered to the Goldsmiths' Class of £3 and £2 were won by H. J. Rowley and W. L. Gilbert respectively. Institute prizes of one guinea were also won by A. G. Smith for silversmithing and H. A. Pilgrim for engraving. L. Stanton was awarded a prize value seven guineas; A. Holm, value four guineas. H. J. Rowley and W. Gilbert tied for prize value three guineas.

On adjourning to the workshops we found several industrious students who had not forsaken their benches even for the interesting kinematograph and electrical displays which were being given in other parts of the building devoted to science. In the metal "shop" a lot of good work was in progress. There is no playing at work at the Northampton; the students attempt—and execute it too—work of the most difficult description. They have the advantage, of course, of being all workers in the metal trades, so that they already have a thorough knowledge of the use of their tools; but the work they undertake at the school is of a very different nature to that which they do at their business shops. We saw a large casket which has been in progress for many months, but is now practically finished, and we doubt much if any school could show a piece of work in which an equal amount of technical skill could be shown. It has numerous mouldings, various raisings, and is altogether as fine a piece of workmanship as we wish to see. Unfortunately, we do not know the name of the student who is responsible for this, so cannot give him credit for it. It certainly deserved a better fate than to be left unsigned. Another ambitious work was a challenge shield in steel and copper, by John Allan. Here again the workmanship was perfect as far as the technical part; but, had the student more experience in drawing and modelling, the result would have been better. Nevertheless, it was a thing to be proud of.

The modelling-room we seem to have taken by surprise, for little work was to be seen, though we were rewarded by seeing a very fine nude figure by Mr. C. L. Hartwell, who is the instructor of this class. This school seems to make a great feature of engraving. We saw many admirable examples, but nearly all, unfortunately, without names. We must not omit to mention, however, a plate by L. E. Stanton and a heraldic design by A. Taylor. Much praise is due to the master who is responsible for the arrangement of the design-room. No student while in there could fail to get ideas, for the walls are covered with a fine collection of butterflies, birds, sprays of leaves, bottle specimens of snakes, fish—in fact, examples of everything that flies, crawls, or swims. Added to this is a collection of photographs and prints, which are full of suggestions to anyone who troubles to study them.

The bookbinding class is well fitted up, and examples of bindings in various styles were shown. Mr. F. Sangorski, who teaches here, has several good students, and the class, which has not been running long, is making rapid progress.

The Northampton should do great things with their art classes. Mr. J. Williams, the able chief, has an excellent staff, and many of the students have already such a good knowledge of the use of their tools that they only need setting in the right direction to accomplish really fine work.

BATTERSEA POLYTECHNIC.

THE Governing Body have appointed Mr. Fred. H. Andrews to the post of Head of the Department of Art and Crafts in the Battersea Polytechnic. Mr. Andrews is at present Head of the Art Department at the East London Technical College and also teacher of the crafts class at the Birkbeck College. He was formerly Principal of the Mayo School of Industrial Art, Lahore, and it is an interesting fact that the students of this school undertook the design and working drawings and carried out entire decorations for the Punjab Central Museum under his directions.

Mr. Andrews was for some years in the studio of a well-known firm of stained glass, pottery, and decorative artists, and has had considerable experience in the application of art to craft work.

THE BRISTOL AND CLIFTON ARTS AND CRAFTS SOCIETY.

THE eighth exhibition of the above Society was held recently at the Fine Arts Academy. Altogether there were 2,000 exhibits of various crafts, the whole making an exceptionally fine display, and the Society, and especially its energetic secretary, are to be congratulated on their success. Craft workers should make a special note of this annual fixture.

The following is a list of the chief awards :—

Oil Painting : 1st, Miss Ethel Hastings ; 2nd, Mr. A. St. John MacCall. Water Colour Painting : 1st, Miss Maud Fabian, Mr. Lester Sutcliffe, and Miss E. K. Pavey ; 2nd, Miss Mary Morton and Miss E. G. Houseman ; 3rd, Miss Mary Garland. Pastel : 1st, Miss E. M. Kitchen. Miniatures : 1st, Mr. W. J. Elsworthy ; 2nd, Miss W. Swayne and Miss C. Bucknall ; 3rd, Miss O. Sunderland and Miss M. Wear. Monochrome : 1st, Mr. W. H. Mould. Pencil Drawing : 1st, Miss B. S. Jefferies ; 2nd, Miss Pedder ; 3rd, Miss Pedder. Pen and Ink Drawing : 1st, Mr. A. C. S. Anderson ; 2nd, the Rev. Father Andrew ; 3rd, Miss Blanche Webb. Charcoal Drawing : 1st, Mr. Lester Sutcliffe ; 2nd, Mr. Lester Sutcliffe ; 3rd, Miss E. K. Dowding. Decorative Design: 1st, Master G. W. Eyles ; 2nd, Miss B. A. Waldram ; 3rd, Mrs. Dent Young and Mr. Oswald Rimmer. Etching : 1st, Miss J. S. Jeffries ; 2nd, Miss N. A. Fry ; 3rd, Miss K. M. Jebb. Bookplates : 2nd, the Misses Williams. Water Colour Woodcuts : 1st, Miss Postlethwaite. Models in Wax : 1st, Miss C. E. Stone. Decorative Painting on Wood : 2nd, Mr. William Morse ; 3rd, Mr. A. S. Hagyard. Painting on Tapestry or Linen : 2nd, Mr. R. Morton Nance. Stencilling : 2nd, Mr. F. A. Flower ; 3rd, Mr. A. F. Flower and Miss L. A. Raynsford. Painting on Vellum : 3rd, Miss J. E. Lambert. Illumination : 2nd, Miss Edith Ibbs. Translucent Enamel : 2nd, Miss Catherine Hughes. Jewellery : 1st, Mr. and Mrs. Arthur Gaskin ; 2nd, Mr. Bernard Cuzner and Miss Eiran Francis (2) ; 3rd, Miss Maud Partridge (2) and Miss Margaret Clarke. Wood Carving : 1st, Miss N. C. Baker (2) ; 2nd, Miss Alice Randall and Miss N. C. Baker ; 3rd, Misses Blackburn and Idle, Miss Lilian Ohlsen, and Miss N. C. Baker. Chip Carving : 1st, Mrs. A. Armytage and Mr. H. Buck ; 2nd, Miss F. Southerden ; 3rd, Miss E. M. Lucas. Poker Work on Wood : 2nd, Miss Southerden and Miss D. M. Rudge. Gesso : 2nd, Mrs. Teed ; 3rd, Mrs. Roberts and Mr. J. H. Poole. Pottery : 1st, Mr. Howson Taylor ; 2nd, Messrs. Gibson & Co. Embossed Leather Work : 1st and 3rd, Porlock Weir Leather Class ; 1st, Messrs. F. and R. Vigers ; 2nd, Mr. E. E. Clark. Tooled and Decorated Work in Leather, Vellum, &c. : 1st, Miss J. H. Park ; 2nd, Miss N. C. Baker. Bookbinding : 1st, Miss Woolrich and Miss E. Hoffman ; 2nd, Oxford University Press and Misses Marshall and Gedye (2) ; 3rd, Miss M. E. Robinson, Miss R. Philpott, and Miss E. Hoffman. Metal Work.—Silver : 1st, Guild of Handicraft ; 2nd, Mr. and Mrs. Arthur Gaskin ; 3rd, Mr. H. Minns. Copper : 1st, Miss Gertrude B. Hill ; 2nd, Guild of Handicraft ; 3rd, Mr. B. Cuzner. Pewter : Misses Stern and Conolly. Other Metals : 2nd, Mr. W. A. Davidson ; 3rd, Mr. F. Braddon. Ecclesiastical Embroidery on Silk or Satin : 1st, Miss Minna Hollier ; 2nd, Miss D. Rimmer and Miss Amy Vassall. Ecclesiastical Embroidery on Linen : 1st, Wantage Embroidery School ; 2nd (2), All Saints' Church Linen Work Society. Figure Embroidery : 1st, Miss O. Chetwynd ; 2nd, Mrs. Huddart and Miss Violet Turner. Embroidery on Silk or Satin : 1st, Miss A. Pritty and Mrs. Huddart ; 2nd, Miss E. A. Vigers and Miss M. Grace Hollis ; 3rd, Miss Ellen Bright. Embroidery on Linen or Cotton : 1st, Miss E. M. Watson, Miss K. S. Chanter, Miss Mary O'Dea, and Mrs. C. T. Budgett ; 2nd, Mrs. Rigby, Minnie McGwane, Miss Alice Bowie (2), Miss E. M. Starkey, and Miss S. Burke. Embroidered Book Covers : 1st, Miss Ethel Bright and Mrs. Huddart ; 2nd, Mrs. Huddart. Lace : 1st, Miss M. O'Brien, Miss M. Kenna, Mrs. Pearson, Mrs. Thorpe, Mrs. Gibson (three), Mrs. Sanders, Lady Pretyman, Mrs. Mayor, Mrs. Barratt, Castle Bellingham Lace Society, Miss L. Moore ; 2nd, Miss E. C. Mears, Miss B. Dunne, Miss K. Bowles, St. Saviour's Lodge Class, Mrs. Pearson, Mrs. Payne, Mrs. Warner, Mrs. Barker, Mrs. Wakefield, North Bucks Lace Association, Miss K. M. Madden, Miss F. Russell ; 3rd, Mrs. Grant, Miss Alice Clarke, St. Saviour's Lodge Class, Mrs. Shepherd, Mrs. Stevens, Mrs. Palmer, and Castle Bellingham Lace Society.

LAMBETH ART CLUB.

AT the Lambeth School of Art, the members of the School Club last month held an interesting reception. Excellent music was provided, and the rooms were crowded with visitors. There was an exhibition of work done by the members of the Art Club, past and present students of the school, and Mr. John Lavery judged the works for the various awards.

Prizes for sculpture were awarded to Miss Hansford for an excellent female bust, and to Miss Dora Whittingham for a group entitled "Mother and Child." In the landscape section, Miss Mary Simpson was awarded the prize for a clever study of old Sandwich Bridge, and her sister, Miss Janet Simpson, gained a prize for the best set of landscape sketches. The prize for animal painting was divided between Miss Lucy Millett and Miss Jessie M'Connell. In the poster section, Miss Lucy Millett deservedly gained the prize. In the figure sketch competition, the subject given for which was "The Wanderers," the prize went to Miss Ivy Hertslet.

THE SOCIETY OF WOMEN ARTISTS.

THE above society will open their annual exhibition about the end of January. The sending in days are January 18 for pictures and the 19th for craft work. We learn that a special feature will be made at this forthcoming exhibition of designs for posters. Inquiries should be sent to Miss Partridge, hon. secretary, 9, Nottingham Place, London, W.

ROYAL SCOTTISH ACADEMY.

THE receiving days are January 8th for pictures and 19th for sculpture. There is an excellent rule by which members and outsiders are limited to three contributions each. No commission is charged on sales. Paintings must be framed in gold or in such other frames of artistic design as may be approved of by the Council.

ARTS AND CRAFTS EXHIBITION AT SHROPSHIRE.

AN Exhibition of Arts and Crafts is to be held in the Music Hall, Shrewsbury, from May 1 to May 5. It will include sections for drawings and paintings, miniatures, pastels, illumination, enamelling, jewellery, wood-carving, chip-carving, fretwork, poker work, inlay, gesso, modelling. pottery, china painting, stained glass, metal work, bookbinding, leather work, lathe work, stone carving, furniture, wrought iron work, needlework, lace, textile fabrics, and basket work. There are several prizes to be awarded, but these, with the exception of the wrought iron section, will be confined to those living in the county of Salop. A commission of 10 per cent. will be charged on sales. Full particulars may be obtained from Mrs. Mather, hon. secretary, Coneybury, Cleobury Mortimer, Shropshire.

TEACHERS' CONFERENCE.

THE London County Council has arranged to hold another Teachers' Conference, which, it is hoped, will be attended by representatives of elementary and secondary schools and technical institutes. The Conference will be held on January 4, 5, and 6, in the Medical Examination Hall, Victoria Embankment. Addresses will be delivered, among others, by Mr. Shadrach Hicks, Principal of the London County Council Shoreditch Technical Institute on "The Function of the Trade School" ; by Mr. Percy Sykes, head-master of the Heritage School of Arts and Crafts, Chailey, on "The Train-

ing of Crippled Boys in Toy and Cabinet Making" ; and by Mr. J. L. Holland, Director of Education of the Northamptonshire County Council, on "Trade Schools for Girls."

LACE-MAKING.

A COURSE of instruction is being given by Miss Richey on Wednesday afternoons at the L.C.C. Central School of Arts and Crafts, Regent Street. Materials and appliances are provided and the fees are nominal ; but to apprentices, learners, and improvers the classes are free. The following is the syllabus :—

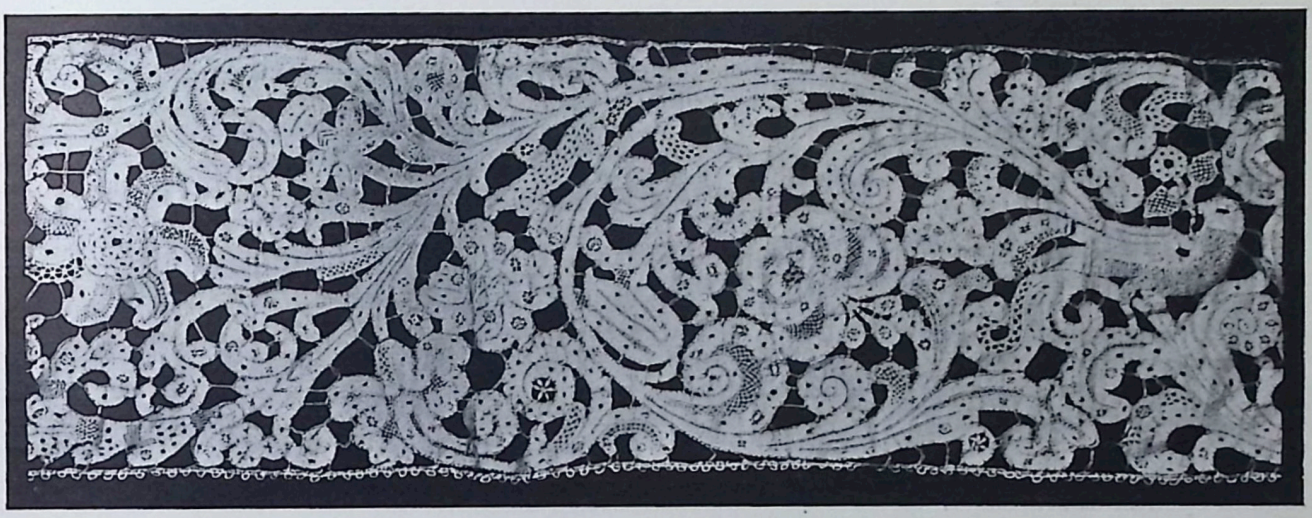
I.—General outline in lace-making—various materials used in Irish lace. Mounting net in frames.
II.—Method of designing sprays, flowers, stems, petals, pistils, stamens, foliage leaves. Sampler.
III.—Tracing designs, fixing drawings under net.
IV.—Working outlines of designs on net. Tambour work. Run work.
V.—Accuracy of drawings. Keeping the forms. Rounded curves. Connection of outline.
VI.—Fillings. Darning, double fining, single fining. General effects.
VII.—Balancing in design. Stitches suitable for various designs.
VIII.—Two stitch, seed stitch. Herringbone stitch. Purse stitch. Bow stitch.
IX.—Feather stitch. Daisy stitch. Pheasant's eye stitch. Bird's eye stitch. Bull's eye stitch. Fish's eye stitch.
X.—Kinds of designs suitable for different sorts of lace.
XI.—Method of moving work and design in frame.
XII.—Special Tambour stitches.
XIII.—The big two. The Diamond two. French star.
XIV.—Wheel stitch. Cartwheel stitch. Cross stitch.
XV.—Ditto. Method of applying design.
XVI.—Outlining design. General rules to be observed about design.
XVII.—Cutting muslin from design with lace-maker's scissors.
XVIII.—Repetitions. Corresponding parts. Various stitches.
XIX.—Light and shade.
XX.—Removing all work from design. Insertion of centres of handkerchiefs. Edgings of laces.

An International Exhibition of Photo-Engraving processes, with special reference to their application to book illustration and bookbinding, is to be held in Brussels in February. Applications for space should be addressed to the President, Brussels Society for Typographical Studies, 51, Marché-au-Charbon, Brussels, Belgium.

LINENS AND LACES.

WE have received from Messrs. John Wilsons' Successors, Ltd., 188, Regent Street, W., a very daintily got up brochure, entitled "Christmas Suggestions," in which appear a number of well-printed illustrations of the table linen and curtains which this firm have produced from designs of Walter Crane, Lewis F. Day, R. Anning Bell, Dr. Dresser, and other well-known designers.

This firm deserves great credit, inasmuch as they are among the few who consider that even domestic linen should be beautiful, and that it is worthy of something more than the usual meaningless flowers and scrolls with which we are accustomed to see it embellished. They have even gone so far as to break away from the glaring stripes which for some reason or other we have to endure on the borders of our blankets, and they have produced them decorated with simple but dainty designs. One we saw, an Oriental stripe design by John Wilson, with a colouring of pink, blue and grey, was excellent. A large portion of this booklet is devoted to lace, and many fine examples are illustrated. Messrs. Wilsons' Successors have not a great collection of lace, but they seem to have the happy knack of securing fine examples of every style, and their prices appear to us to be extremely moderate. In this number we illustrate an interesting piece from their collection. The Point de Milan is a very choice example of old lace, and the design is well worthy of careful study. It will be noticed that the star fish has been introduced, and there is also what looks like a leopard between the two curves of the tail of the bird. We also reproduce a Honiton lace collar. This is, of course, made on the pillow ; but, as is usual with the best examples of this lace, the ground was finished with a needle.



AN OLD EXAMPLE OF POINT DE MILAN LACE.

(In the possession of JOHN WILSONS' SUCCESSORS, Ltd.)

A NEW GESSO.

WE have received from Messrs. J. Barnard & Son, the well-known colour makers, of 19, Berners Street, a sample of a new gesso which they are about to place on the market. It is named Lillie's Gesso, and is the result, we understand, of many years' experimenting by an experienced gesso worker. We have not yet had an opportunity of testing the merits of this gesso, but the makers claim several advantages for it, namely, it is mixed and used cold, is clean to use, and free from any disagreeable smell, also it adheres reliably to almost any ground, and sets with a minimum of shrinkage. We must certainly congratulate Messrs. Barnard on the excellent manner in which the gesso is sent out. The powder is packed in an air-tight tin, while the mixing fluid is in a wide-mouthed bottle with a cork and wooden stopper.

The Editor's Note Book.

SEVERAL interesting additions have been made recently to the Tate Gallery. Among them are "Fantasie and Folly," by the late Robert Brough, which he bequeathed to the nation; "The Last Ray," by Hugh Carter, presented by Mrs. Carter; "East Indiamen in Port," by George Chambers; "An Incident in Gil Blas," by Hurlstone, both of which have been purchased; and a bronzed plaster relief of Charles S. Keene, presented by Mrs. Edwards. There are three of the Chantrey pictures purchased this year, F. W. Cowper's "St. Agnes in Prison," E. Alexander's "Peacock and Python," and Harold Speed's "The Alcantara Bridge." We also understand that the bequest of Mr. Charles Fraser has now been received. This includes "The Shrine of Edward the Confessor," by David Roberts; two pictures of fruit, by W. H. Hunt, and three figure subjects, by the same artist; a landscape, by Birket Foster; A Street in Antwerp, by Samuel Prout; a mountain scene, by F. Cooper; "A Greek Captive," by Henriette Brown; and "A Venetian Scene," by E. W. Cook.

* * *

THE International Society of Painters, Gravers, and Sculptors will make an interesting departure in the arrangement of its next exhibition. The New Gallery will be opened from January 1 until February 15 for paintings in oils and sculpture alone. This will be immediately followed by another exhibition of water-colours, pastels, drawings, etchings, and decoration, which will remain open until March 31.

* * *

ART apparently is now going solid for tariff reform. Anyhow, this appears to be the case in Canada, where, in spite of the prosperity in all other spheres, there is a deplorable slump in art. The Ontario Society of Artists, of which Mr. Bell-Smith is president, recently asked the Tariff Commission for the imposition of a tax of $10 on every oil, water-colour, or pastel painting, or piece of sculpture brought into Canada. It was suggested, however, that the works of the Canadian artists residing abroad should be admitted free. Canadian artists have to pay a duty of 30 per cent. on brushes, colours, and other requisites. "That in itself is bad enough," they say, "seeing that we are trying to create a sound and good Canadian school of painting." But they go further, they also blame the existing law, declaring that it is responsible for the advent into Canada of all the "sweepings" from the studios of England, France, Germany, and other European countries. "Spurious pictures, passed off as the work of famous artists, are dumped down here," said Mr. Bell-Smith, "and they are palmed off upon an unsuspecting public. We have no wish to prevent the reception of really meritorious works." The Ontario Society of artists also complains that false standards of art are set up as a result of the trade in these trashy pictures.

* * *

MR. WYNFORD DEWHURST, R.B.A., has recently tried an interesting experiment which was not altogether unsuccessful. He wished to test public interest in impressionism, of which he is an ardent follower, by undergoing the auction-room ordeal. As the auctioneer's catalogue has it: "It is a fact known to everybody interested in art matters that pictures painted by the most famous master in the school to which Dewhurst belongs, namely, Monsieur Claude Monet, were sold in the auction rooms of the Hôtel Drouot, Paris (thirty years ago), at prices ranging between £2 and £20 only, yet the buyers of those works have lived to see them change hands, in the same rooms, at between £500 and £1,500 apiece." It was certainly a praiseworthy attempt to establish direct relations between artist and public, for the purchasers were able to get the pictures at their own valuation, for they were sold without reserve. We understand that Mr. Dewhurst intends to hold a similar sale every year.

* * *

WHY do newspaper writers on art persist in speaking of oil colours as "oils"? "A painting in oils" is the usual expression, and sometimes—as in the case of a Croydon notice before me—a writer speaks of "a clever oil." One might just as well speak of a picture "in waters," and of a clever "water."

* * *

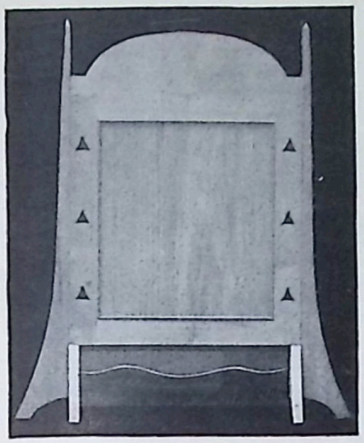
WRITING in praise of the reproductions of charcoal and crayon drawings in ARTS & CRAFTS, "The Bazaar" says:—"So well do these come out that the result seems to contradict some of the lucid and concise 'Hints to Young Illustrators.'" But the hints in question refer to drawings made in pen and ink for reproduction by the ordinary line process. Charcoal and crayon drawings cannot be reproduced by the same simple means: what is known as the swelled gelatine process has to be employed.

* * *

IN our last number, a correspondent suggested that doctored photographs should be exhibited for what they are, and not as photographs. An excellent idea! A Society of Painter Etchers was formed to distinguish the work of its members from that of the mere reproductive etcher. Why should there not be a Society of Photo.-Fakers to let the public understand that the work of its members is not to be confounded with that of mere photographers?

THE EDITOR.

The Vyking Screen



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Extract from "Daily Chronicle," May 16, 1904:—

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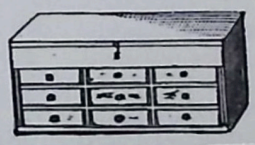

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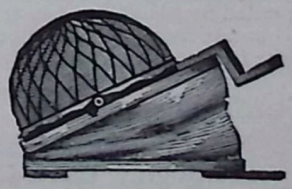

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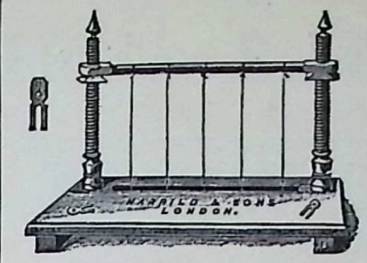

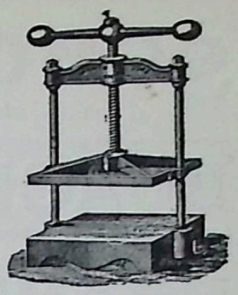

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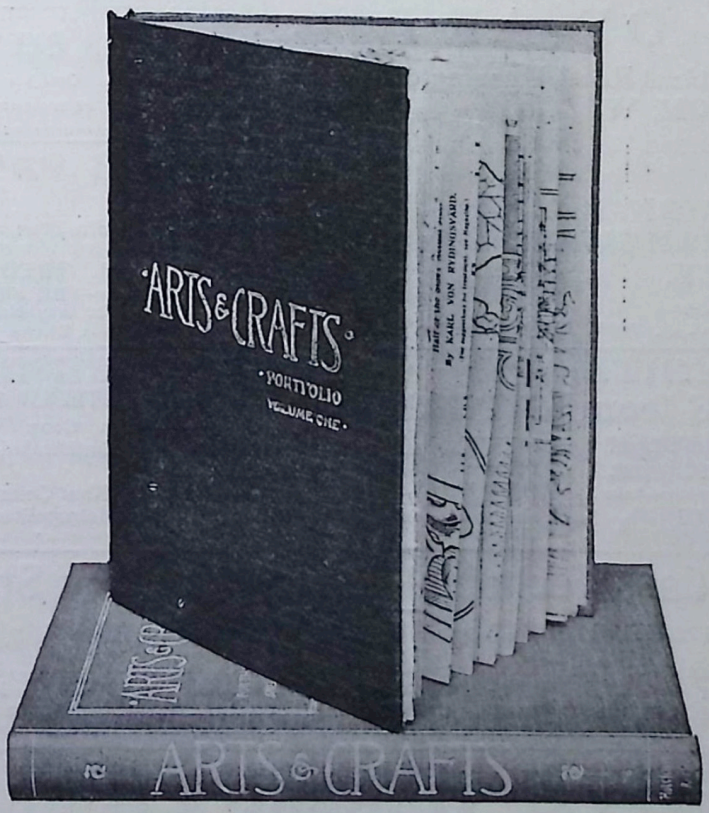

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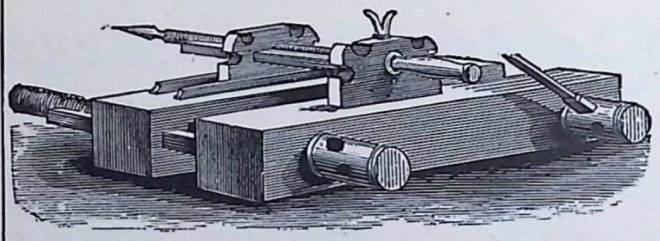

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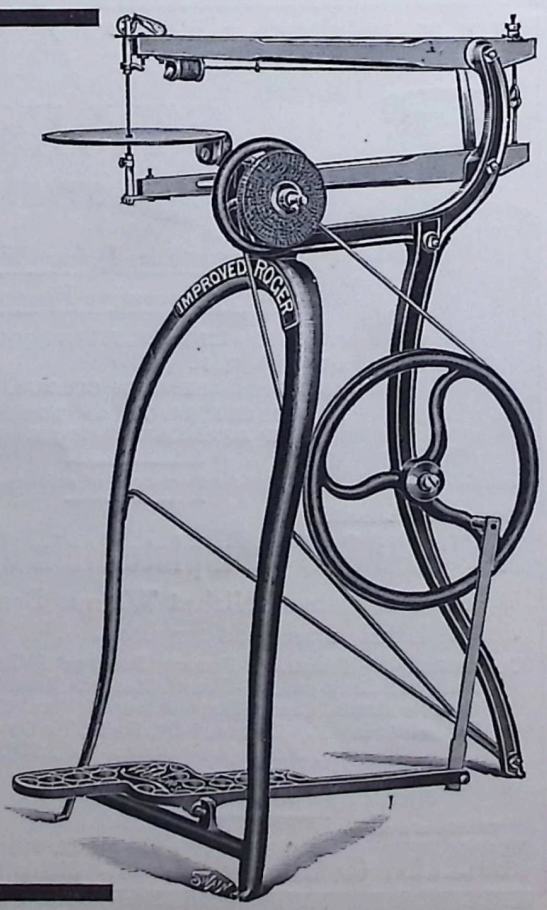

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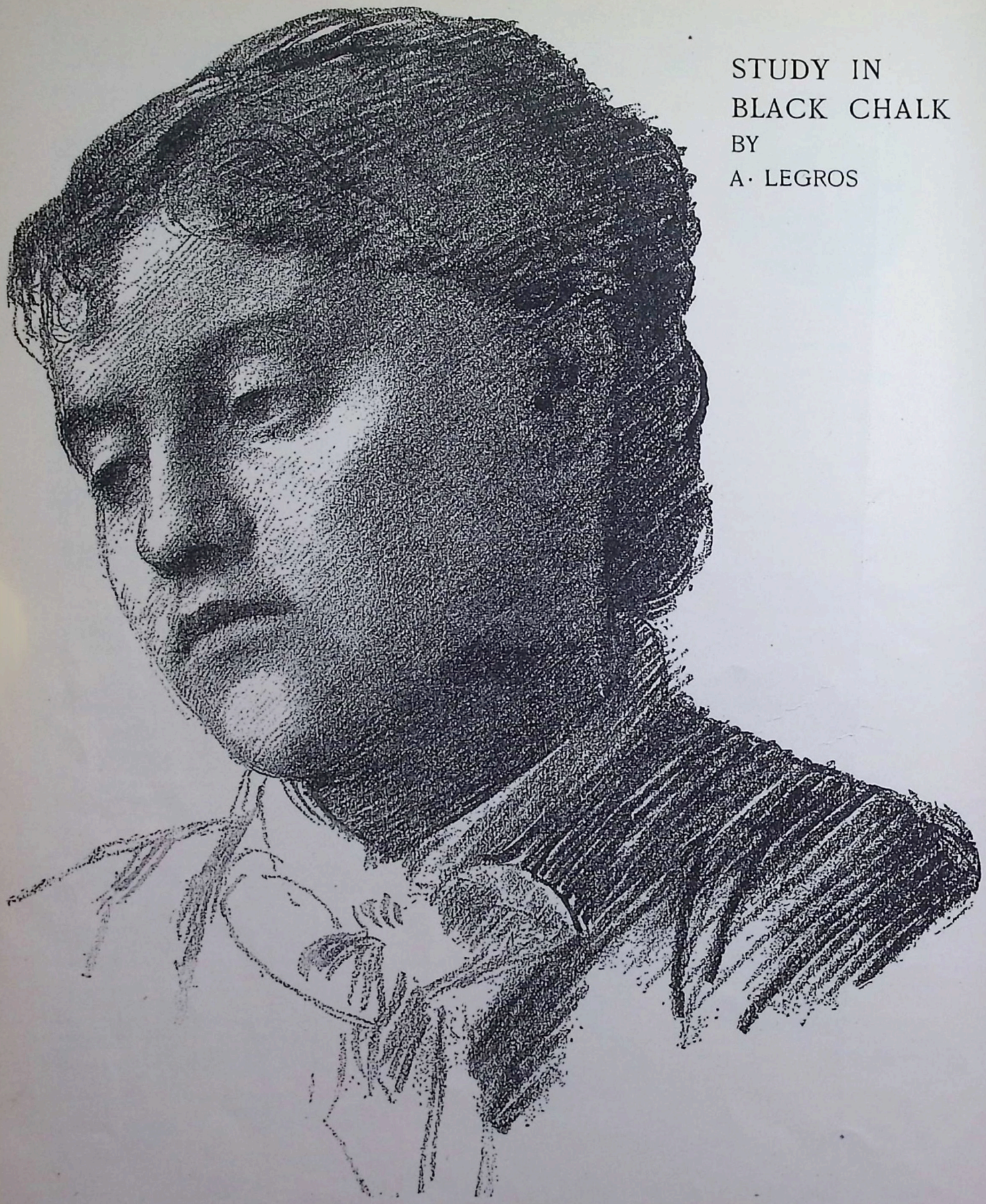


STUDY IN
BLACK CHALK
BY
A· LEGROS

Arts and Crafts Society's Exhibition,

HELD AT THE GRAFTON GALLERIES.

AT last the long looked-for Exhibition of the Arts and Crafts Society (which, by the way, is the eighth) is opened. We say at last; for, during the past few months, we have heard little else talked of in the craft schools and workshops which we have visited.

The Judges must have had an exceptionally heavy task this year, for, in spite of the splendid accommodation which they have secured at the Grafton Galleries, they certainly could not have found room for half the work which was submitted.

We notice that a critic who contributes to one of the well-known dailies remarks that "The Exhibition is simply bewildering with its crowded walls, show-cases, furniture, and what-not." Well, this may be so at first glance to anyone making a hasty visit, but we were particularly struck with the excellent manner in which the exhibits were displayed, considering the fact that there were considerably over seven hundred of them, ranging in size from a pendant, the size of a shilling, to cupboards which would occupy pretty nearly the whole length of a fair-sized room. It is quite evident that the utmost care has been taken in the arranging of the exhibits, and we think few exhibitors will have reason to complain of being badly placed. The same critic suggests that such things (referring to the exhibits) ought to be shown in isolated, partitioned apartments. Undoubtedly an excellent idea, but absolutely impracticable, unless the Society had a "Park Royal" of its own, or greatly curtailed the number of exhibits. The latter would be a great disappointment to many craftsmen and women all over England, for it seems to be a general complaint that, in spite of the Society's Exhibition every three years, the average craftsman has too few opportunities of bringing his work to public notice. The remedy, we have always considered, would be to hold these exhibitions annually; but we have been assured by those who know, that, financially, this would be an impossibility.

The work involved in the arranging of this Exhibition must have been tremendous, and we owe the Committee a debt of gratitude for the way in which they have completed their task. We, personally, heard that many of them had been working till the small hours at the Galleries.

The Selection and Hanging Committee was composed of the following ladies and gentlemen:—Walter Crane (President), H. Longden (Hon. Treasurer), Edward S. Prior (Hon. Secretary), Gilbert Bayes, R. Anning Bell, W. A. S. Benson, Walter Cave, Douglas B. Cockerell, Lewis F. Day, Graily Hewitt, Selwyn Image, George Jack, W. R. Lethaby, Mervyn Macartney, Miss May Morris, R. Ll. B. Rathbone, Halsey Ricardo, Allan F. Vigers, Emery Walker, Metford Warner, and Prioleau E. Warren.

To the Secretary, A. A. Longden, was due the excellently compiled catalogue. Students will doubtless be glad to hear that, if attending any recognised Art School, they are admitted free on showing their credentials. This is an excellent example, which we should like to see followed by all other Exhibition Societies.

Printed Books.

To proceed to the exhibits. Books, their printing, writing, illuminating, and binding, occupied the greater part of the floor space of the Large Gallery, and we should think that this is one of the most representative collections of art work in connection with literature that has been got together in recent years. To begin with, we had books from the Doves Press (T. J. Cobden-Sanderson and Emery Walker), the Chiswick Press, the Essex House Press (C. R. Ashbee), the Ashendene Press (C. H. St. J. Hornby), the Dun Emer Press (Elizabeth C. Yeats), the Eragny Press (Lucien Prissaro), and James Guthrie.

The books issued by the Doves Press are already so well known that it is hardly necessary to further enlarge on their excellence. Among the books shown were Milton's "Paradise Regained" and "Paradise Lost," books that will always rank among the examples of perfect typographic work produced in this country.

The work of the Ashendene Press is not so well known to the public, though collectors have long since recognised its merit. To illuminators the productions of this press must indeed be a blessing, for the type is so well balanced, and the pages so symmetrical, that they seem naturally to lend themselves to illumination, and to leave the worker entirely free in his selection of decoration. When looking at these books, it is hard to realise that the pages have been printed from type, for all the restrictions which accompany the use of type seem to have been overcome, and the result is a page of printing which looks as natural as if it had been written by hand. The form of letter used is clear and readable, yet extremely decorative; and, best of all, both from the reader's and illuminator's point of view, the face is not too heavy. As an example of the way in which these books lend themselves to illumination, look at "Solomon's Song" (239, *e, f, g, h*), which is illuminated by Florence Kingsford, whose work we shall refer to later. The artist here

has displayed the greatest possible freedom, yet the illumination and type go together admirably.

The Chiswick Press shows many books which are excellent examples of good plain readable printing, combined with a perfectly designed page.

There should be no excuse for a badly produced book, when a volume like "Jack's Wood-carving," published by J. Hogg, and printed by the Chiswick Press, can be issued for the modest sum of five shillings.

The Essex House Press also showed interesting examples of their printing, but we cannot get over our dislike to the form of letters which they see fit to use. In "Prometheus Unbound," for instance, the type is almost eccentric, especially in the case of the "e" and "s." They may be ornamental, but they certainly are not readable, until one gets used to them, and the first qualification of good printing is surely legibility, and afterwards decorativeness.

It is not often that we come across a Press under the direction of a lady, but Miss Elizabeth C. Yeats, who is the organiser of the Dun Emer Industries, includes printing among her other accomplishments, and from what we could judge from the one book shown the work is very good.

The Eragny Press, besides showing some good letterpress printing, had some charmingly designed printed papers for the covers of half-bound books. There is undoubtedly a large field open for these, for the modern art binder has great difficulty in securing good papers for his half-bound books from the ordinary trade sources. We should also like to see Mr. Prissaro try his hand on printed end papers, for here also we believe there is a good opening. The work in both these cases was executed by Esther Prissaro and T. Taylor. James Guthrie's quarterly, "The Elf," is a unique book, for the designing, printing, and illustrating are entirely his own work, and display great invention and charm.

Writing and Illuminating.

We now come to the writing and illuminating, of which there is a good display. The former, however, is principally represented by the clever work of one man, Graily Hewitt, who especially excells in gilding. In the Octagonal Gallery hangs a large frame containing "Shirley's Song" written in gold on purple-coloured vellum, a perfect piece of work. Yet more wonderful is a book, Tennyson's "Revenge," written entirely in gold, the letters being not more than twice the size of the type used in this magazine. The writing is remarkably clean and sharp, and is done entirely with gold leaf.

There are two very beautiful pages from "St. Luke." These are illuminated by Louise Lessore and gilded by Graily Hewitt. Here an acanthus leaf is intertwined round the lettering, which appears here and there through the masses of foliage. The gilding is perfectly executed, and the illumination admirable as regards design and colour, and altogether this is one of the most charming pieces of illumination in the Exhibition.

Edward Johnston showed a case of well-written books, which did full justice to his reputation.

Miss Florence Kingsford's illuminated books came quite as a revelation to us, and she is undoubtedly an artist of great power and originality. Her style is entirely her own, and is not founded in any way on the earlier work. She has a marvellous facility in her handling of the figures, every one being a perfect miniature with the most complete rendering of details of costume, &c., and her treatment of foliage and animals is admirable. Yet, though so complete, her pictures seem to be drawn with no apparent effort, and the effect is altogether charming.

Splendid work in quite a different style was shown by Allan F. Vigers. The books treated were mostly Morris Lectures, and their decoration was done with special reference to the subject of the Lecture. In shields and roses, "Westminster," there was a very clever heraldic design, full of charming colour and clever drawing. "Flowers and Owl" we also much admired, the mass of intricate design being remarkably well carried out.

Miss Jessie Bayes' written and illuminated books were also attractive, the miniature in "Folgore da S. Gemigniano" being very daintily done, the gold, too, being well manipulated. There were so many good things in this branch of the Exhibition that it would be utterly impossible for us to refer to them all in the limited space at our disposal.

Bindings.

The bindings were doubly interesting, for here it was possible to see the work of the father—or, shall we say, the grandfather?—of the modern revival in bookbinding, together with that of some of the youngest workers. When we speak of the father, we, of course, refer to T. J. Cobden-Sanderson, to whose work in this direction we owe so much, and his influence is to be seen in most of the work at this Exhibition. A case full of books was shown by his bindery, in which the designs, while carrying on much of the old tradition, showed great originality and beauty. The forwarding and finishing of these books, done by C. Wilkinson and C. MacLeish respectively, was all that could be desired. In a neighbouring case was the work of Douglas Cockerell, the former pupil of T. J. Cobden-Sanderson, and one who himself has done much to improve this craft. The green morocco Milton's "Minor Poems" is a magnificent book, the richest possible effect being obtained by the close gold tooling and the red inlays. The green morocco "Empedocles" was illustrated in the Magazine in the August number, 1905. The design is cunningly arranged, and the repetition of the small leaf gives great freedom to the pattern. Among others in this case we noticed Foster's "Life of Goldsmith" in niger morocco, the pattern consisting principally of interlaced lines, and "Dramatic Romances" in blue morocco, which was extremely dainty in colouring. The executants of Douglas Cockerell's books were E. Marsh, E. J. Elbra, and J. Callaghan.

One of the youngest of our bookbinders is Miss Lucy G. Wrightson, but she makes a very creditable

THE REWARD OF VALOUR

A PANEL IN MODELLED GESSO AND MOTHER-OF-PEARL · BY F. MARRIOTT

display. The "Marcus Aurelius," designed by G. Sutcliffe and executed by Miss Wrightson, is an admirable piece of work, well forwarded and cleanly tooled. Another of her books, "Alphabets and Numerals," in which its author, A. A. Turbayne, has designed the pattern, was cleverly done. Among others, we liked Miss Janet Mahomed's "Shakespeare's Sonnets," Miss E. G. Woolrich's "Rubáiyát," Messrs. L. Hay-Cooper and S. Barnard's "Altar Book," the design being excellent; Miss Isabel Logan's "William Morris's Lectures," with gold-dotted background. One of the books by the Essex House Press, "The Masque of the Edwards of England," was bound in oak boards, which were cleverly carved, the letters being cleanly cut. We did, though, not altogether like the light colour of the wood.

Miss Isabel Logan also showed a book bound in vellum, tooled in gold, and painted—a very dainty treatment. The bindings of Alice Patterson and George Fisher were very good, especially the "Omar Khayyam," and Elsie Hoffman (a pupil, we believe, of Alice Patterson) showed facility and good workmanship in her tooling.

Cartoons and Designs, Stencils, &c.

The cartoons for stained glass and frescoes were mostly hung in the Large Gallery. Among them were some very original designs for windows for a billiard-room by C. W. Whall. The subjects were "Cricket" and "Fowling." They were humorously treated. In "Fowling," for instance, a little cherub carrying a bowl of salt was seen to be carefully stalking a hen with the evident intention of placing some on her tail in the proverbial manner. Henry Holiday's cartoons were attractive, especially "Moses leaving the Court of Pharaoh" and "Oberon," and Heywood Sumner's cartoon for Sgraffito, "The Good Samaritan." A wood engraving, "The Limestone Rock," by Sydney Lee, was a superb piece of work, and showed what marvellous qualities of texture can be obtained by this process. Thomas Todd Blaylock exhibited one of his now familiar stencilled prints, "The Church, Stratford-on-Avon." It is interesting to see how far Mr. Blaylock has carried the art of stencilling fabrics, but we do not think this is so good an example as we have seen of his work. The delicate book illustrations of J. Foord are principally decorative plant studies; he has evidently closely studied Japanese work, and he seems to have mastered their wonderful methods of composition.

We were interested to see the set of forty-three original coloured drawings for "A Flower Wedding," by Walter Crane, which book, recently published by Cassell & Co., we reviewed last month. It is remarkable to find that the colouring has been followed so accurately in the printing, and this is doubtless due to Mr. Crane's knowledge of the process of reproduction. We have heard so many complaints from artists of the way in which their original scheme of colouring has been destroyed when lithographically reproduced, and we fancy, if these artists were to study the question a little more from the printer's point of view, they would have as little reason of complaint as Mr. Crane must have with his book. Walter Crane also sends some original drawings for nursery papers, which are dainty and essentially suitable for their purpose. Taking it as a whole, the display of wall-paper designs, though a small one, is somewhat disappointing. So much attention has been paid in recent years to this branch of designing, that we should have expected to see more of this class of work hung.

The two very large cartoons for fresco at Oakham Old School, "The Story of Gareth," by Mary Sargant Florence, were vigorously drawn and boldly conceived; a cartoon for stained glass, "Dorcas," and three intended for King's Weigh House Church, by R. Anning Bell, displayed the usual charm we are accustomed to associate with this artist's work. Round the upper part of the walls of the Large Gallery was hung, with very good effect, the decorative frieze (in wax colour on burlap), which Walter Crane designed and painted for the British Fine Art and Art and Crafts Section of the St. Louis International Exhibition (1904).

Furniture.

Furniture received a good deal of attention from craftsmen this year, and the styles are various, but mostly tend towards severity. In fact, we might say some have so striven after simplicity that the result is little short of ugliness. Quite a number of the pieces of furniture had the simple outlines of square and oblong boxes. Much ingenuity had certainly been displayed in the dividing up into cupboards and drawers, but this did not detract from the clumsiness of the whole effect. A distinctly novel writing cabinet was exhibited by the Guild of Handicraft. This was executed by W. Ride, J. W. Pyment, and Power, and designed by C. R. Ashbee. The outside was covered with red, blind-tooled leather and bound with steel frames, and the effect was a quiet richness that looked very attractive. On opening the doors, the inside was divided up into compartments and drawers made of a grey-coloured wood, with the drawer fronts covered in red leather and closely gold tooled, like a binding. In our opinion, this somewhat spoiled the colour scheme, for this mass of gold seemed entirely out of keeping with the mellow tone of the outside. Still, it was a most original attempt, and the workmanship was good.

In the same room (the Middle Gallery) was a very different piece of furniture, an inlaid mahogany sideboard, executed by Thatcher, Gauntlett, and Millard, of Messrs. Morris & Co., and designed by George Jack. So far as workmanship went, nothing finer could be desired, and, as regards the shape of this sideboard, the design was good; but the large panel of inlay was—to say the least of it—disturbing. It would be impossible to have a piece of furniture of this kind in a room, unless the other furniture had been specially made to go with it.

(*To be continued.*)

Royal Academy Addresses.

GEORGE CLAUSEN, A.R.A., ON DRAWING.

LAST month Mr. Clausen gave two addresses on drawing to artists and students in the lecture room at Burlington House, and we are indebted to the "Morning Post" for the following report. On the first occasion, through an accident, the lantern and screen were missing, and this prevented him from showing the studies he had chosen as examples.

Drawing, said Mr. Clausen, was, of course, frankly a convention, for we never see lines round objects. Yet a reference to the drawings of primitive people showed that it had always been natural to represent things by lines. It was a form of expression from the earliest days, a form that gradually became more precise, and then acquired suggestion of movement and modelling of surface by gradation. Finally it developed into expression of form by light and shade. He proposed jointly to speak of the drawings of the earlier masters down to the time of Michael Angelo, and of those of our time who had been influenced by those masters. There was one great difference between the drawings of the old painters and those that students make in the schools to-day. The old men made theirs with some definite intention, not merely as studies as our students do, and in connection with this point the lecturer compared the ancient and modern methods of art training. He questioned whether with all our advantages our school system was as good in its results as the older plan of working as a pupil in an artist's studio. The work of the Old Masters, even when they were not of the best, was so satisfactory in its accomplishment that ours seemed tentative beside it. It was, perhaps, because we relied too much on the posed model, rather than the intelligent study of form and movement. There was too much tendency to-day to regard school work as an end rather than a means. The drawings of our earliest painters were, unfortunately, rare, but the students might see good examples of them at the British Museum, by Pisanello and by the elder Bellini—drawings, delicate, slight, and of a certain angularity. They could see this early drawing, too, in unfinished paintings, such as the Nativity of our Lord, by Piero della Francesca, which is in the National Gallery. The older Italian drawing resembled the Flemish in its angularity, but was finer in its types and in its proportion of figures. This was partly a question of race and partly because the Italians had never quite lost the traditions of antique art. The Flemings had no traditions, so they tried to follow nature with absolute fidelity; but they had not the Italians' sense of beauty. In the Flemish drawings, even in that of Dürer, the greatest of the Primitive draughtsmen, there was a distinct mannerism, coupled with an insufficient attempt to restrain the line or keep it severe—a tendency rather to make it curly. This tendency was present to some extent in the drawings of Holbein, but not in his best work, such as the famous Windsor drawings, which were above mannerism. It was mainly from the Flemings that the Pre-Raphaelites took their inspiration, and the early Pre-Raphaelite drawings, especially those of Millais, were well worthy of study. A fine style of drawing was practised then, and it had a great influence on the illustration of the period. Walker, Houghton, and Pinwell all owed their inspiration to Millais, whose drawings were sometimes as fine as those of Holbein or Leonardo. Mr. Clausen urged the students to study above all the finest of drawings, those of Raphael. In them they would find that all was given with the utmost economy of means, and with everything put exactly where it should be. The only modern who could compare with him was Ingres, one of the greatest spirits of the last century, and one of the finest draughtsmen that ever lived. Looking at the drawings of Ingres you could not imagine that the line could be placed in any different position from that chosen by him. Leighton, too, was sometimes as wonderful in the research of his line as Ingres. There were no better examples than these men, and no greater truth to nature than the drawing of Ingres. As models of style in drawing Mr. Clausen cited Alfred Stevens and Watts, and then referred to the work of J. F. Millet. All three, he said, had this in common—expression through the definition of the form. That was the firm basis of an artist's work. Finally, Mr. Clausen read portions of the letter written by Whistler to Fantin-Latour, which appeared recently in the "Gazette des Beaux Arts." A great colourist, Whistler expresses his regret in the letter that he had ever been influenced by Courbet, and puts the case for drawing in the strongest possible way. Whistler criticises his own work perhaps too severely, and tells Fantin that he knows well that the discipline of the drawing of Ingres would have been the healthiest thing for him. Guided by drawing, he wrote, colour is a splendid woman with a husband worthy of her. So, said Mr. Clausen, we may take it from Whistler that the serious study of form is the best thing to which an artist can devote himself.

Mr. Clausen commenced the second of his two addresses on drawing by showing on the screen the pictures that he was unable to illustrate before, owing to the absence of the lantern. The works illustrated included a study for a picture by Van Eyck, every bit so carefully and exactly drawn that the lecturer said the painting of it must have been exactly like colouring a print; pen-drawings by Dürer, in which the curliness of line mentioned previously as a German characteristic was pointed out; the sketch by Millais for his never-executed Eve of

the Deluge, and drawings by Masaccio, Raphael, Alfred Stevens, Millet, and Michael Angelo. The last was a fine study of the nude, drawn directly, said Mr. Clausen, and not as we draw, by making a lot of scribbles and trying to find the right line in the middle of them.

Mr. Clausen's address was devoted to the consideration of the work of artists whose point of view, he said, was not so much the recording of the actual forms as the appearance of those forms under certain aspects of light. This development of drawing corresponded with that of painting from the time of the Primitive artists, when every figure was studied by itself, to the latter period in which painters tried to make everything take its place in the scheme of light and shade and colour in which the picture was arranged. The modern point of view showed a wider sympathy rather than deeper insight, for it was impossible to go beyond the depth of expression of the earlier work. Most of the drawings he proposed to show them on the screen, as illustrations of the work of artists who drew for effect rather than for form, were by Watteau, Claude, and Rembrandt. Watteau, however, was not so good an example as the others, as his drawing indicated both tendencies. Mr. Clausen then showed on the screen a nude study and the drawing of a negro by Watteau, both of which, he said, suggested the influence of Rubens, and were like him in manner of drawing. Both, too, were midway between drawing for form and drawing for light and shade. Some other drawings by Watteau were then shown. The little studied graces of his figures were, said the lecturer, as beautiful as they could be, and the spontaneity of his drawing was one of its rarest qualities. After a passing reference to Gainsborough, whose resemblance in some respects to Rubens was commented upon, Mr. Clausen turned to the drawings of Claude. In these Claude showed himself greater even than in his paintings. He gave us in his pictures the sun shining in the sky with every appearance of truth, and in this and in some other respects his work had never been surpassed. Nevertheless, the pictures had a composed and conventional look, and, if it were not that this effect had been overpowered by the greatness of the painter's artistic vision, his canvases would become tiresome. But Claude's drawings included many of the most fresh and delightful studies from nature, studies of effect made for simple enjoyment, and these were far more attractive than the larger works, which were possibly painted because of the taste of the time, when pure landscape was hardly accepted. People often said when discussing Claude's pictures: "Oh yes; he is all right for atmosphere, but he could not draw. Look at his trees, they are all alike." There was some truth in this; but if those critics would look at his sketches they would find that the trees there were individualised and natural. Mr. Clausen showed some beautiful sketches of trees and landscape by Claude, and in commenting upon them remarked how few of the landscape sketches by Old Masters were in colour. They did not approach colour in our way, and it was with them largely a matter of memory. They aimed less at getting the actual colour of nature than its gradations, and the modern men, if they had lost the big grasp of landscape, had arrived nearer to the true hues of nature. According to Sandrart, Claude did paint sometimes in colour directly from Nature, and it was said he valued those studies so highly that he would not sell them. The lecturer advised the students sometimes to sketch from the point of view of the Claude drawings, and to make their picture rather by gradation than by colour.

Mr. Clausen contrasted in curiously interesting fashion the work of Ingres with that of Rembrandt. In Ingres we saw science, measurement, analysis, and the most beautiful and exact drawing. But his work was almost wanting in human interest, and showed little pre-occupation with anything but the posed model, whereas Rembrandt was full of deep emotion and sympathy, and as an artistic inspirer immeasurably the superior. These artists illustrated the two opposite tendencies of drawing for form and for effect. Charles Keene, the modern draughtsman who came nearest to Rembrandt, determined, as he did, the accents of his drawing by the shape of the shadow, while Phil May's accents were determined by form, much as those of Dürer were.

CONFIDENCE in yourself is a long step toward success in art. It is a serious error to imagine yourself cleverer than you are, but it is hardly a less serious one to undervalue your talents and abilities.

"A PAINTER'S vocation is to produce in other minds the impression which a scene has made upon his own," remarks a famous landscape-painter. "When he has done this, he has done well, and the best way for him to do it is by speaking to others in the simplest language and leaving to their imaginations some of the vaguenesses and suggestions which charmed his own. The painter ought always to remember that although his public knows less of art than himself, it may have just as strong a sympathy with nature."

To clean bristle brushes, use common soft brown soap and warm water, if possible; wipe the thickest paint off first with an old cotton rag and then rub the brushes well over with soap. Then, holding the handles upright in the right hand, scrub the brushes round and round in the palm of the left until the paint is well loosened. Dip the brushes in the water occasionally and rub on more soap, until they are thoroughly cleaned. Squeeze the brushes through the fingers, to be sure the paint is well out of them. Rinse them in clear water and put near the fire to dry. Keep your brushes where they will be free from dust. Sable brushes are cleaned in the same way, but should not be scrubbed so hard against the hand as the bristles. Before drying, always press the sable hairs to a point with the fingers, so that they will keep their pointed shape.

DRAWING IN
CHARCOAL
BY WATTEAU

Landscape Painting in Water-colours.

(*Continued from Vol. III., page* 160.)

VIII.—The Perspective of a Bridge—Some Effects of Lights.

When one begins to make a particular study of some special thing in nature, it is a curious fact that examples of interest illustrating this subject seem to become unduly prominent. No matter in what direction the student may turn, he is greeted by suggestions of the new topic. This is especially true of perspective, which, as we have already hinted, awaits the landscape painter everywhere. Having sketched the crooked fence, he discovers a charming variety of subject in the rustic bridges of the neighbourhood. Perhaps he meets with only a couple of narrow boards crossing the brook on the far side of a field, or may be there is to be seen a covered structure of larger size and more pretentious architecture further along, where a broader stream cuts in two the dusty road leading up to the picturesque old farm-house beyond. Now, to draw correctly a bridge of this kind is not the easiest thing in the world, and it is surprising to see the ingenuity with which some well-known painters will avoid committing themselves in certain characteristic tests of perspective drawing, giving us perhaps in a picture (and for no particular reason) "a bit of a bridge," but not the whole bridge; or showing, it may be, a non-committal, broad-side view of hand-rails and roadway; or one where the tell-tale vanishing points are conveniently hidden in a clump of bushes or masked by an overhanging tree.

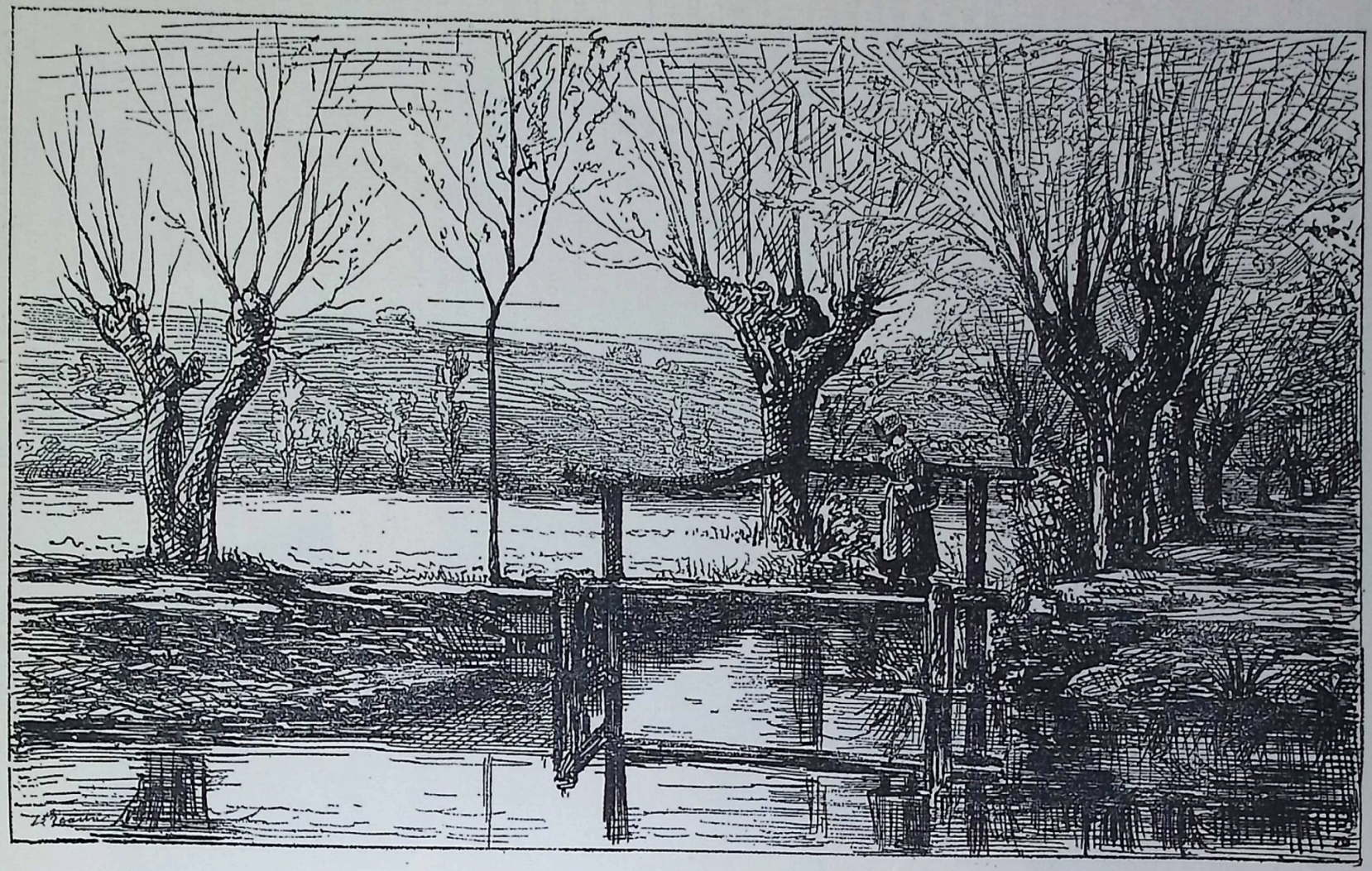
The student must not be afraid of this new difficulty, but should do his best here also, and, as with the crooked fence, work over the drawing patiently in the charcoal till it looks right. There will then be a better chance for a good colour impression. There are really few subjects more fruitful in interest than an old bridge, or even a comparatively new one, if this should chance to be white-washed, and shines like a bit of marble in the sun. Rico, one of the modern "apostles of sunlight," has shown us in some of his lovely Italian pictures the possibilities of white bridges, where with graceful arches they span the sapphire-tinted canals of Venice.

Our homely streams, under a clear sky, are beautiful, too, when they lie like a bit of blue ribbon laid between the fields of pasture; and if the thrifty farmer's white bridges are only of lime-washed wood they still may reflect the sun rays, and be charming to paint. If the bridge crosses a highway, and should chance to be furnished with an old-fashioned pointed roof and overhanging eaves, there is a fine opportunity for the careful draughtsman, who will, if he is wise, set apart a whole morning for such a bit of work. The student will find, on considering his model, four horizontal leading lines, which form right angles with the uprights of the bridge; a fifth, or central line, forms the ridge pole or apex of the pointed roof, and the others are disposed thus: two along the eaves and two correspondingly placed at the bottom of the side walls. These latter, let us suppose, are upon level ground, consequently parallel to each other, and actually identical in length. These *facts* may easily be verified from different points of view, and any accidental irregularities should be noted. Seen in perspective, everything will be changed: the horizontal lines become oblique, meeting (if extended) in a common vanishing point; and no two lines will necessarily appear the same length, nor will the spaces between these lines be presumably equal, both width and length being dominated by that point of view from which the drawing is made.

If the student places himself and his easel directly opposite the middle of the near entrance, he will find his problem simplified in that both sides will be alike, though their direction is reversed. A perpendicular line drawn exactly through the centre, bisecting the bridge from roof to floor, will be useful here as a guide. This view, though undesirable in a picture, is good practice for the beginner. He will note that the planks of the flooring will diminish regularly in width and length as they are farther away from his eye; and if there are some tall windows let into the sides, these will appear to become actually narrower, shorter, and closer together in the distance, shrinking into square holes as they approach the farther end. Should the bridge be a very long one, these receding squares will flatten, then become mere oblong slits, and finally lose their identity in a string of tiny round dots.

The remote entrance diminishes into a small patch of light shining out beneath the shadow of the roof, and he can hardly believe it is actually the same size as the large opening leading into the bridge by which he is sitting.

On a bright day, the effect here is most interesting; truncated sunbeams stream through the narrow windows like sharp blades of gold, cutting into the purplish gloom which fills the interior, but not dispersing it; and the difference of colour and intensity in these bright rays is a matter for close observation. To get at the values here, one compares the brightest ray from the windows in the foreground with the highest light of a cloud in the sky above; while the strongest darks within may be balanced by the shadow of a tree outside. One notices also how, from our point of view, the long lines of the flooring seem to run upward, growing nearer together in the distance, while



WILLOWS · LATE AUTUMN

PEN STUDY BY E· BRAUN

those of the roof appear to lean down to meet them. These, with many other interesting points, will here present themselves for study, which we will leave the young painter to discover for himself. Perhaps for the inexperienced beginner, the simple, weather-beaten old crossing of rough, unpainted boards is a safer subject, if he has the opportunity of choosing, and the best of this kind are those picturesquely risky affairs composed of several gaping water-stained logs loosely nailed together, such as farmers throw over a shallow creek running through pastures where cows come down to drink.

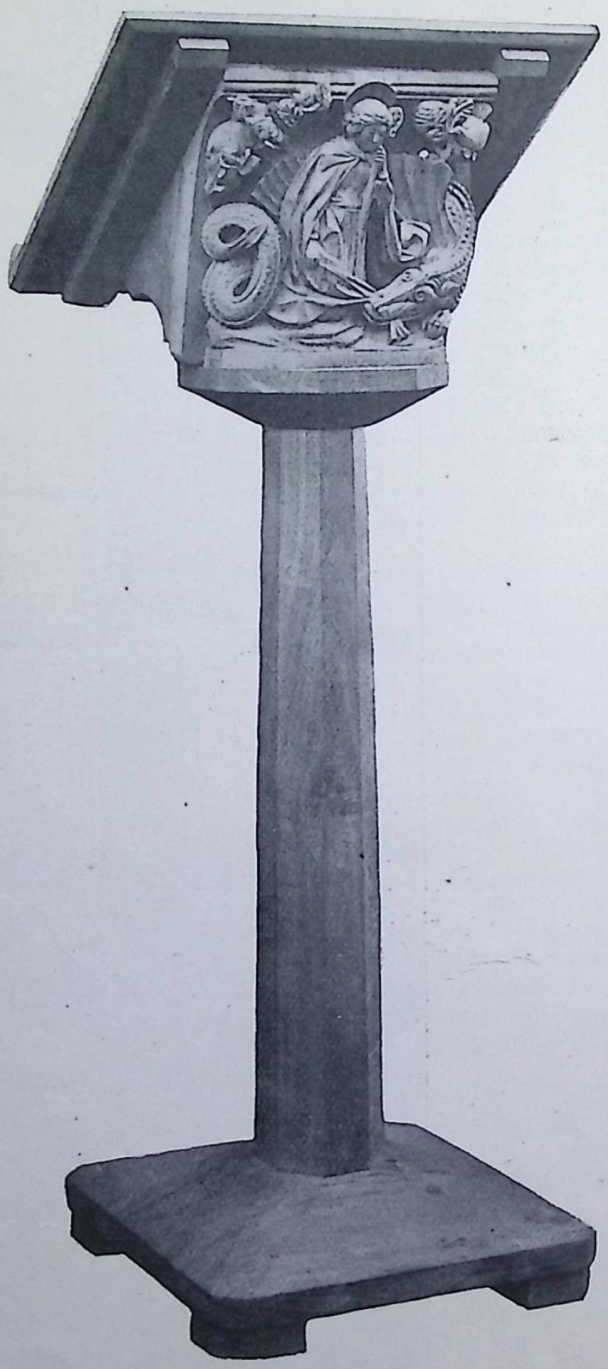
Sometimes when the water is quite deep, a crooked hand-rail is obligingly added, and the artist may even have the luck to meet with one of those primitive structures, adorned with a quaint decorative cross-piece below, supporting the shaky footway.

In sketching such a bridge, choose a day when the sky is deep blue overhead, and place your easel rather low down, so that one can see under the bridge as well as over it. If one sits somewhat to one side, the perspective is not too complicated, and the reflections compose better. If there is no wind to ruffle the surface of the water, these reflections will be very distinct and clearly defined, forming an important feature of the composition, relieved by the blue sky tone, for all these tints will be repeated in the water, subject to the ordinary conditions mentioned in a previous chapter. In painting such a scheme of colour, make a mental scale of the relative values and note the highest lights in the sky, also the darkest spots of shadow under the bridge. The surface of the water which reflects this dazzling blue, catching here and there sparks of white light, brilliant as it may seem, as in reality many times lower in tone than the sky. In contradistinction to this, we find that the actual shadow beneath the bridge is generally darker and richer than its own reflection. Sometimes, however, shadow and reflection are so nearly similar in value that only a little glint at the water's edge, as it washes against the wood, will indicate the difference between them. When it happens that these distinct reflections upon the glassy surface are disturbed by a slight ripple, their elongated forms tell the story and create a picturesque distortion, twisting the image of the stiff straight hand-rails into long snake-like curves. If the bridge is not too wide, and the painter sits low, he may perhaps see underneath it a little strip of blue sky, shining above the grey-green sedge grass in the field beyond, where the tall reeds and brown cattails growing along the bank are many tones lighter than one will be tempted to paint them.

M. B. O. Fowler.

The lectern given on this page was described in Vol. II., No. 10, March, 1905, page 187. It was executed by Mr. George Jack for the church of St. Margaret Marlos, Carmarthenshire. The Welsh narratives have three St. Margarets for their heroines, and the story of these is admirably told in a small paper written by Geo. G. T. Treherne, M.A. It is sold for the benefit of the "Margaret Window Fund."

WOOD-CARVING.



Lectern by George Jack.

In Church of St. Margaret Marlos,

Carmarthenshire.

Practical Talks about Wood-carving.

BY HERBERT TURNER.

III.—A Lesson on Pierced Wood-carving.

THIS kind of carving always appears to be extremely difficult, but in reality it is not so difficult as it appears. It is certainly most effective, and presents opportunities that the ambitious carver will readily avail himself of. A certain amount of ability combined with careful thought and careful workmanship are necessary in the execution of a panel similar to the one illustrated.

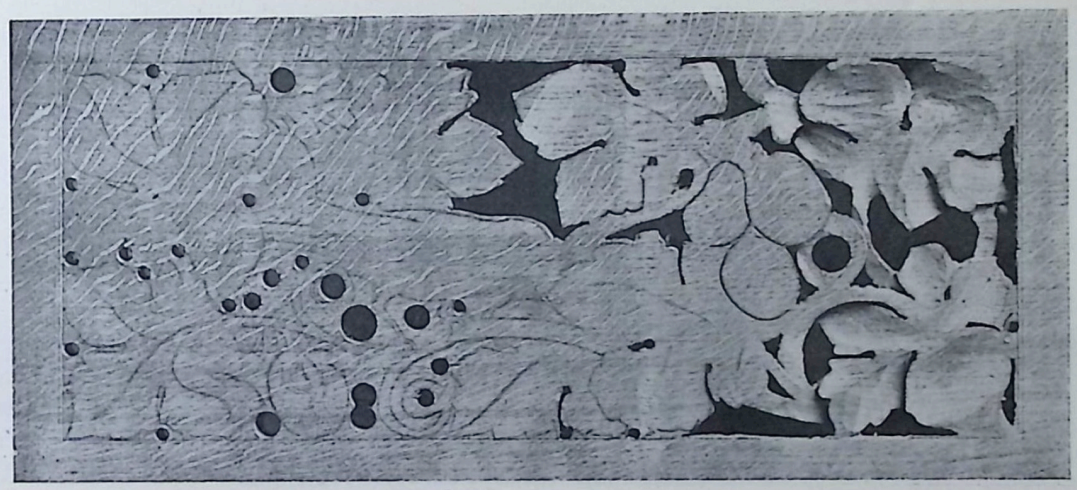
The actual size of this panel is twenty inches in length, nine inches in width, and one inch in thickness, and the wood is oak.

Although it might reasonably be thought that its execution requires many tools, especially the bend and back bent gouges, yet an ordinary set of ten or fifteen tools are all that is necessary, so far as carving tools are concerned. In addition to these, we require a brace, and two or three centre-bits and a scroll saw. We first accurately trace the design on the wood. Then with the brace and a bit of suitable size we bore holes here and there through what would, in an ordinary panel, be the ground work: these holes being so arranged as to give the scroll saw the best opportunities of doing its part of the work, economically, and to the best advantage.

The next step is to thread the scroll saw through the various holes made by the bit, and cut the outline of the design very accurately. In cutting the leaves one continuous cut should be taken round the outline and the serrations cut in afterwards, as it would be extremely difficult to cut them with a continuous stroke of the saw, but it must be noted that extreme accuracy is necessary.

Those who have the advantage of the proximity of a saw mill where a suitable power saw is used, can, with advantage, have this part of the cutting done there. A glance at the illustration showing the initial stages of the work will make the method of working clear.

Then comes the most important part of the work, namely, that of cutting the masses and arranging their proportions, and relative heights and depressions. This consists of cutting the various levels such as the stalks, which will be, as a rule, lower than the leaves and fruit; care being taken not to use too much force in cutting the thinner portions. The leaves and fruit, too, should be taken to their proper shapes and proportions, and the leaves should be given their correct twists and thicknesses, and the fruit its proper mass proportion; likewise the bird. Upon this part of the work depends much of the ultimate effect of the panel. Get the depths well down and sharply cut, so as to obtain a deep and well-defined shadow that will assist in accentuating the elevations, and so produce that well-balanced effect characteristic of really good work.



Panel showing the Initial Stages of Pierced Wood-carving.

The structural character of the design will largely determine the general arrangement of elevations and depressions. The stalks, as we have already said, will require to be subordinated, being of less importance; the hops and thrush will be fuller, and of outstanding character. The leaves provide a splendid field for variation of surface, and can be

folded and twisted in many ways, not necessarily the way shown in the photograph, which is only one interpretation of the design.

Then the final stage is arrived at, viz., that of the surface treatment. This is comparatively easy, providing good models of the leaves, fruit, and bird are obtainable. These are necessary to gain knowledge of the correct details. Here, again, as in the arrangement of the masses of the design, we must observe a due regard of variety, in order to give contrasts to all the elevations, and to ensure the highest effect.

In trying to do this, we find we have certain limitations imposed upon us, which, to a large extent, determine the nature of this surface treatment. The hops can really be treated in only one way, and the cutting up of their surfaces, necessitated by the small scales, practically means that the leaves must be plainly treated, and should not be cut to any great extent. Therefore, no elaboration should be attempted, to do so would be to diminish the contrast necessary to obtain the best effect.

The veins on the leaves are formed by vigorous gouge cuts, in some cases made by a cut with a fluter on one side, and a cut with a flatter gouge on the other side, and sometimes made with only a cut with the fluter.

In cutting the thrush, the feathers should not be cut too distinctly, that is, with too sharp a definition, especially in the case of the breast feathers and those under the body. These are accomplished by using a gouge so as to mark their outline very slightly.

In cases where the saw has not done its work thoroughly well, it is quite legitimate to use a file to bring the outline to its correct shape. In cutting thin places, such as the legs of the thrush, the wood is made to taper slightly, so that it is thickest at the top part, and thus stronger. It will be noticed that the panel is cut clean from the tool, and is not disfigured in any way by sand paper or rifflers, or other artificial aids. Next month our talk will be about such artificial aids, and the extent to which they may or may not be used. HERBERT TURNER.

NOTE.—Will our wood-carving readers note that we are always prepared to give advice upon receipt of full particulars as to their difficulties. Mr. Herbert Turner will answer correspondents fully in the Magazine every month. Envelopes should be addressed to the Editor, marked "Wood-carving." —EDITOR, A. & C.

THE HANDLING OF TOOLS.—Many wood-carvers, besides sharpening their own tools, prefer, too, to handle them. In doing this, there are two points that should be noted. One is, that the blade of the tool should be fixed perfectly true in the handle, deviating neither to right nor to left of an imaginary line drawn through the axis of the handle. Any transgression of this takes away from the power of the tool to do its work properly. For instance, in the process of "setting in," if the blade is not in the same straight line as the tool, the force given by blows of the mallet is not transmitted in a straight line through both handle and blade, but meets, at the point of junction between them, a definite bend. The result of this is, that, force tending to proceed in a straight line, some of it flies out at this particular point, and only a portion of it is transmitted through the blade to the wood. Two results follow from this; the first is considerable loss of power; and the second is the danger of damaging the tool by breakage, owing to the jarring vibrations set up by this dividing of the force. The other point to notice is that the hole bored in the handle to receive the tang of the blade should, besides being true in direction, be big enough to receive the tang without splitting the handle; it should be small enough to hold the tang perfectly firmly, and it should be gradually tapered in its length to get a direct hold or bearing upon the tang for the whole of its length.

PANEL OF PIERCED WOOD-CARVING, COMPLETED.

Metal Work.

By HERBERT J. MARYON, late Director of the Keswick School of Industrial Arts.

III.—Methods of Soldering: Ancient and Modern.

SOLDERING or brazing is the act of joining together separate pieces of metal by running between them some other metal or alloy, which will closely adhere to their surfaces and bind them together. This metal or alloy is known as solder. It must, of course, have a lower melting-point—require less heat to melt it—than the metal of which the work is composed, so that a temperature high enough to melt the solder will leave the work uninjured. Sweating, or welding, is a somewhat similar process, in which, however, no solder is used, but the work itself is heated to practically its melting-point, so that the surfaces run together in much the same manner as that in which, at a very different temperature, two pieces of ice placed in contact are found, after a time, to have become firmly attached to each other. There is yet another method of soldering metals together, that in which a chemical compound, without the application of any heat, will cement together the surfaces to which it is applied. This process is called cold soldering, but is not much used. Entirely different methods of soldering are employed in gold or silversmith's work, and in pewter or lead work. In the former the work has to be raised to a bright red heat before the solder will run—a temperature which would have reduced the whole of the latter work to a liquid state. As a comparatively low temperature is sufficient to melt the solder employed on pewter, tin, or lead, all that it is necessary to do is to so apply the heat that the parts of the work near the joint to be soldered may be made hot, and the solder will flow before the heat has had time to spread to other parts of the work. The tools required for this purpose are few and inexpensive; a soldering-bit, some acid, and a piece of solder are the only essential ones. The work should be first prepared by scraping the parts to be joined quite bright and clean. Any loose pieces are then to be tied on in their proper positions with wire, and some flux put all along the joints. This flux may be hydrochloric acid prepared in the manner described below, or resin, or even tallow. Its purpose is to keep the air away from the joint while it is getting hot, and to assist the flow of the solder. Take twopennyworth of hydrochloric acid (this can be bought from a chemist), put it into an open dish, and drop into it from time to time small pieces of zinc. These will be dissolved, and gas will be given off in great quantity. These fumes are unpleasant, and they are injurious to health, so this part of the work should always be done in the open air. After a time it will be found that the liquid will dissolve no more zinc. It is technically "killed," and has only to be poured off into a pot ready for use. It can be applied to the work with a stick, a brush, or a chicken's feather. Powdered resin is used largely by plumbers for flux when making joints in lead pipes. Soft solder can be bought from any ironmonger under the name of tinman's, or blowpipe, solder. It is, however, much cheaper to make it from pieces of scrap tin and lead. Zinc, tin, and lead can be bought from a plumber. Take two parts of tin, by weight, to one of lead, say 8 oz. of tin to 4 oz. of lead. This will be sufficient to begin with. Melt them together in an iron ladle, an old saucepan, or any iron bowl which is not soldered. A soldered article would be likely to come to pieces in the process. When all the tin and lead has melted, stir with an iron rod, and skim off any dross which may float on the surface. Then pour the molten solder into any mould you may have prepared. A good one can be made from a piece of angle iron wedged up level on the floor. It will form a long, narrow

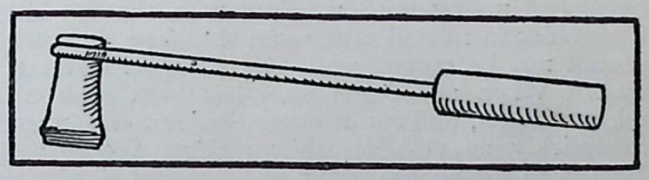


Fig. 1.—Soldering-bit.

trough. Put a little heap of sand or clay at each end of the trough to keep the metal from running out. Instead of the piece of angle iron, a similar V-shaped trough can be made from sheet iron. Pour the solder into the trough to the depth of about a quarter of an inch, starting from the left-hand end of the trough, and moving the ladle to the right as it fills. When cool, the solder will be in a long triangular stick ready for use. The soldering-bit has a copper head, an iron shank, and, as a rule, a wooden handle. The head is formed from a bar of copper, either pointed or flattened out to a chisel shape, like a bronze celt. The hatchet shape, with the head fixed at right angles to the shank, is the most convenient form (Fig. 1). In buying or making a soldering-bit, be sure that the copper head is not less than about a pound in weight. Those sometimes sold, in which it is about half an inch in diameter, and weighs only a few ounces, are toys. They get cold in so short a time as to be a constant annoyance, and they cannot hold enough heat to warm up any but the smallest piece of work. Before using the bit, it should be "tinned," that is to say, its edge coated with a thin layer of solder. Heat it by putting the copper head in the flame of a gas-ring or in a red fire—a red fire, for a smoky one would

make it very dirty and unusable. It must not be allowed to get red hot though, for the reason explained below. While it is heating, put some soft solder and a little "killed" acid on a piece of metal cut from an ordinary tin canister. By the way, a "tin" canister is made of thin sheet iron with a coating of tin on each side. When the soldering-bit is hot, rub it on the tin, and in a second or two some of the solder will melt and stick to the copper wherever the acid also touches it. Rub the bit about till a coating of solder is spread all over its working edge, the part farthest from the iron handle. The bit is now ready for use, but beginners should be warned against letting it get red hot, for then the solder alloys itself with the copper, and "burns" little pits all over the surface. These have to be filed out and the point "tinned" again before the tool can be used. To use the bit, hold it in the right hand by the handle, with the edge resting upon the piece of tin canister before mentioned. Then take a stick of solder in the left hand, and dip the end of it into the acid. Slide that end up against the edge of the bit. In about a second some of the solder will melt and hold on to the bit. Rest the latter against the joint at once, and hold it still for a few seconds. The solder will run off the bit into the joint as soon as the work is hot enough. If it does not flow easily, reheat the bit and add more acid to the joint. Any pieces of solder which fall on the bench should be picked up by touching them with the hot bit. The solder turns dull as it cools, therefore the work should not be moved until this change has taken place. When all of the joint has been soldered, reheat the bit, and run it along the joint once more as quickly as possible while melting the solder. This is to spread the solder quite evenly all along. It will be much easier now to scrape off any superfluous solder than if it were left in uneven patches. In joining together pieces of pewter, tin (not tinned iron), or lead, it is possible to do without solder altogether, or rather to use some of the metal itself instead. The bit should be used while very hot, and the work done quickly, for if the tool were allowed to rest for more than a second or so a hole might be burnt right through. Should such an accident occur, the hole, if large, should be plugged with fresh metal, and the joins soldered up while the plug is held in place by a pad of cloth or piece of wood. Flux must be applied just as if solder were being used. Any superfluous metal can be filed or scraped off afterwards. In making lead tanks for some purposes, where chemical action would be set up between the lead and any solder present, all joints are made, technically "burnt," in this way.

The solder used for silver, copper, or brass work is, as a rule, that known as silver solder. It consists of silver mixed with some alloy, generally brass or copper. A very useful solder can be made as follows:—Take three parts of scrap silver, by weight, to one of brass wire. For example, 6 oz. of silver to 2 oz. of the wire. Cut up into small pieces, and put them all into a fireclay crucible with a little borax on top. Crucibles large enough for this purpose can be bought for 2d. from any dealer in jeweller's requisites. Take the crucible up in the tongs (fire tongs will do), and put in into whatever furnace you are to use. When all is melted, stir well with an iron rod, and when ready to pour, drop into the crucible a piece of zinc about half the weight of a threepenny-piece. Stir and pour out at once. The zinc is to replace that which has been burnt out of the brass in the melting; it makes the solder flow more easily. Solder can be made of silver and copper alone, but it requires a good deal more heat to melt, and it does not flow so easily. Hence it is used, as a rule, only when work has afterwards to be enamelled. Solder in which there is any zinc is unsuitable for such work, as the zinc gets burnt out by repeated firings and leaves the surface rough. The mould into which the solder is poured is made as follows:—Take a piece of iron wire about one-eighth of an inch in diameter, and bend it into the shape of a U, perhaps 3 in. high, with the top ends bent out a little. Place the bent wire on a stake, and flatten it till it is about the thickness of the edge of a half-crown. Take next two pieces of thick sheet iron a little larger than the U, and place one piece flat on each side of it, and it will be seen that the three together form a little trough of the shape of the U, and the thickness of the flattened wire. Make a funnel-shaped opening at the top by bending outwards the top of each piece of sheet iron. With a triangular file make a few nicks on one face of the U-shaped wire to allow the air to escape at the sides of the mould when the molten metal is poured in at the top (Fig. 2). Make no nicks at the bottom of the U. Clamp the wire and the pieces of sheet iron together tightly, and pour a few drops of sweet oil into the mould before the metal is put into it. Warm the mould, grip the crucible with the tongs on its further side, and pour towards yourself. Fill the mould nearly to the top, and put the crucible back in the furnace, if there is any metal left in it. That in the mould will be set in half a minute, the clamps or binding wire can be taken off, the metal turned out, and the mould got ready again at once for the remainder of the metal. By varying the shape and thickness of the wire, pieces of flat silver of almost any outline, even long, narrow pieces to be afterwards drawn down into wire, may be cast in this way. The solder can be rolled or hammered out as required. The separate pieces of work to be soldered together should be bound in position with binding wire. This wire is of iron, and on no account for gold, silver, or copper work should it be galvanised or tinned, as the metal with which it is coated will, when heated, alloy itself with the work where it touches, and make a burnt line, which will take a good deal of filing out. Now take a lump of borax, and grind it on to a slate with a little water, or make a paste of powdered borax and water. Apply this to the joint with a brush or a feather; make it run well into the joint on all the surfaces which are to be soldered. Joints in silver, copper, or brass should be close, though the solder will fill a crack as wide as the thickness of the paper upon which this is printed. Should it be necessary, however, to solder up a bigger gap than this, it is well to plug it by putting a piece of

scrap silver into the hole; any projecting piece may be filed off after soldering. Solder is often cut into small pieces, and placed at intervals along the joint, into which it runs when melted. This is a very convenient though sometimes troublesome way of applying it, for when the work is heated the water in the borax boils up, and may dislodge the pieces of solder; and, again, if solder is exposed for long to the action of the fire it may become "burnt," and refuse to melt. The application of more borax will sometimes make it go. To overcome these difficulties the solder is often cut into long strips, and held in the left hand by pliers, while the blowpipe is in the right. When the work approaches the right temperature, the point of the strip of solder, after having been put into the borax, is touched

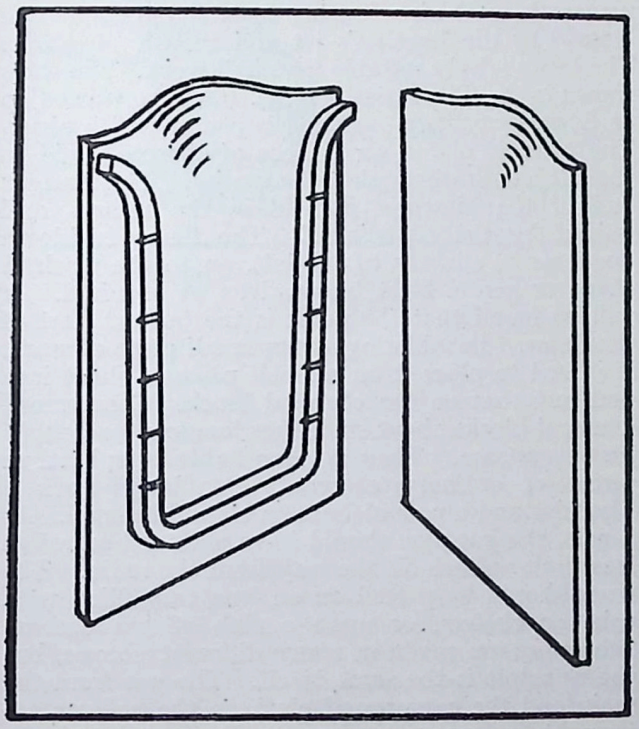


Fig. 2.—Mould for Casting Solder.

upon the joint, and melts at once, running into it. The use of the strip of solder is very convenient, as the joint can be filled just as much or little as desired; while, if small pieces of solder are placed along the joint, it is not easy to allow exactly the right number, and if too few have been used the work cools down while the fresh pieces are being applied. It requires a certain amount of practice, while working the bellows with one foot and directing the blowpipe with a hand, to keep the other still enough to apply the solder just where it is wanted, and with very fine work, filigree for example, it is practically impossible to do so without disarranging the work itself. But this will be discussed in another chapter. The work, when soldered, should be allowed to cool down a little, and be then put into pickle. Pickle is a mixture of sulphuric acid (vitriol) and water—say six parts of water to one of acid. The action of this diluted acid on the work will be to dissolve the borax, which has been melted into a very hard, glasslike substance, and also to clean the work. The heat will have turned the latter, if of copper or brass, nearly black. Small articles may be boiled in the pickle. To do this, put some of the latter, with the work, into a little copper bowl, and heat it till the liquid boils, by which time the work will be found to be quite clean and free from borax. Larger work should be left in the acid for a time, or plunged into it while hot. Care should be taken to avoid splashes from the pickle, especially when boiling, for it will burn clothes or skin badly. In either case, ammonia should be applied to the spot at once.

The quality of gold is expressed by the number of parts of pure gold out of 24 parts, or carats. Thus, pure or "fine" gold is 24 carat. If any other metal is mixed with the gold, the latter is said to be alloyed by it. For instance, 22 carat gold contains 2 parts of alloy and 22 parts of fine gold, and 18 carat gold, 18 parts of gold to 6 parts of alloy, and so on. The metals generally used to alloy gold are copper and silver. The addition of any portion of these metals to a piece of gold will lower the melting-point of the gold. It will not require so much heat to melt it. It will be seen, then, that the quality of the gold, whether fine or 22, 20, 18, 15, or any other carat, is a clear indication of its relative melting-point. Thus, 12 carat gold will act as a solder for 15 carat, or any better quality, 16 for 18, 18 for 20, 22 for fine gold. But it is, of course, impossible to solder a piece of 15 carat work with 18 carat gold. The work would melt first. If a piece of gold work requires many successive solderings, the first are done with the best quality solder that may be available. For instance, on 18 carat work 16 carat solder would be used for the first soldering, and later ones would be done by 14 and 12 carat respectively. This is the theory; the practice is, however, rather different. All that is necessary, if one is using, say, 18 carat gold for the work, is to take a few cuttings from the gold, add a tiny piece of copper or silver, or both, melt them up together with the blowpipe, and flatten out the resulting bead of metal, and use it for solder. If care is taken to remove all the borax from the joints which have been soldered, by boiling the work in pickle after each soldering, many successive solderings may be done with the same alloy. If you require a softer solder, add a little more alloy to the remains of the solder you have been using, and melt it up again. Work that has been boiled in pickle should always be afterwards washed or boiled in water. Hammer or roll the solder to size 6 or 8—about the thickness of a threepenny-piece—and cut some of it up into little pieces by making with the shears a number of parallel cuts about one sixteenth of an inch apart, and then making another series of cuts at right angles to the first set. In this way a number of pieces of solder of about the same size may be got ready for use. They are usually kept on the borax slate. The joints in gold work should be made as close as possible, as the work itself should be fine and delicate, and the

solder will find its way through the joint, however close a one it may be. After the borax has been applied to the joint in the ordinary way, heat the work a little, and the borax will boil up in a thick, hard, white scum. If the heat is increased the borax will subside again, and eventually, if the work is made red hot, melt into a very hard substance, borax glass. If the borax has boiled up, however, it is enough for our purpose; any superfluous lumps may be scraped off, and pieces of solder placed at intervals along the joint or wherever they may be required. It is not necessary to place them so close to each other as to touch, if a sufficient number be allowed to fill up the tiny gap between the pieces of work. It is well to allow the borax to boil up, as above described, before the pieces of solder are arranged, or they might be moved from their places or thrown off the work altogether. Gold solder melts much more suddenly than that for silver. When the right temperature has been reached, it generally runs away like water; and if there be little difference between the quality of the metal in the work and the solder, say, when using 16 carat solder on 18 carat gold, the blast should be stopped at once, or the heat may rise high enough to melt the work also. Should there be any loose pieces or projecting points near to where the flame is playing, it is well to have them covered by a little loam, or rouge, or whitening to protect them from the heat. "Sweating" is yet another method of joining pieces of gold together. Benvenuto Cellini describes how he used this process in fastening up any little cracks which appeared in his repoussé work when he was making the little buttons worn by the nobles of his time in their caps. His method was to close up the cracks and spread a mixture of 6 parts verdigris, 1 part ammonia salts, and 1 part borax over the gold, and then to give it sufficient heat to melt the surface of the metal. In this process the back of the work should be well supported. This can be done best by filling the under side of the sheet of gold with plaster of Paris. Some such process seems to have been employed in Ireland on the "bunne-do-ats," or fibulæ, of pre-Christian times, in which several heavy pieces of gold are joined together without any solder.

Very similar is welding, as employed on iron. The different pieces to be joined are raised to what is known as welding heat, the iron looking almost white hot, brighter than the lightest part of a good fire in an ordinary grate. At this temperature the surface is plastic, almost liquid, and when the different pieces are placed together and hammered they hold firmly to one another. They may then be made red hot again, and hammered to any required shape. It will be noted that no flux or solder is necessary in this process; but, as the metal has to be well hammered, it is admissible when for any reason this is not possible.

To join pieces of iron or steel by brazing, first fit the different pieces together closely, and bind them with wire, which should not be thinner than that of which an ordinary pin is made. It may be a good deal thicker, if the work is heavy; but, if thinner, it is very likely to be burnt. The wire should be that known as binding wire, of iron, but not galvanised. Apply borax to the joint in the ordinary way, then put some brass wire or spelter on it. Make sure that it will not move away or fall off, by either bending it round the work or by binding it in its place with iron wire. Now heat the work till bright red hot, and the spelter or brass wire will melt, follow the borax, and run into the joint. Should it not run easily a little more borax will help it. When cool remove the melted borax by pickling or by scraping, and file the work smooth. The join will show as a faint yellow line owing to the presence of the brass. If, however, silver solder is used instead, the join will hardly show at all.

Coal gas is the simplest and most generally available fuel for use in soldering. There are two principal methods of using it—the blowpipe and bellows or the jeweller's jet and mouth blowpipe. The latter is only suitable for small work. The jet is shown in the illustration (Fig. 3). It can be turned up or down by merely swinging it round on its pivot. The work is placed on a piece of charcoal held in the left hand rather below the gas jet. The straight end of the blowpipe is held in the mouth and guided by the right hand. The flame is blown downwards, slightly to the left, on to the work, a sharp or gentle blast being given as required. It will be found that the point is the hottest part of the flame. In soldering a very small piece of work, it is well to place it on a small piece of sheet iron and rest that on the charcoal block. Compressed charcoal blocks about six inches long can be bought for sevenpence. They are less liable to split than pieces of ordinary charcoal. For large work a blowpipe and a pair of bellows should be used. As a rule, the gas pipe should have a clear bore of at least half an inch all the way from the main. The work should be placed on an iron tray filled with coke or cinders, or upon a slab of gas carbon. Blowpipes are made in many different shapes, but the principle is the same in all. The gas from the main and the compressed air from the bellows are brought in separate pipes to the nozzle of the blowpipe, where the tubes containing them are concentric, the air in the inner one and the gas in the outer. The amount of air and gas is regulated by a lever or tap.

It is often the case that a room otherwise available for metal-working has no supply of gas. This need not, however, be an insurmountable obstacle, as soldering lamps, burning oil or spirit, can be used instead. Work as large as a fair-sized brooch can be soldered by means of the spirit lamp shown in Fig. 4. Resting on a cast-iron foot is a large reservoir for methylated spirit; projecting from the side of this reservoir is a thick sloping tube, filled with cotton-waste or wick. This gets soaked, and can be lighted when the cap (intended to prevent the escape of the spirit) is removed. The flame can be extinguished by dropping on to it the disc of metal shown attached to the hinged curved wire above the reservoir. The lamp is used in conjunction with the mouth blowpipe. For

larger work a lamp burning paraffin would be required. The Swedish blow-lamps, known as Ætnas, are perhaps the best. They will be familiar to most people as being similar to those used by house decorators for burning off paint from woodwork. They make a slight roaring sound when in use. The most useful size will hold a quart of oil and burn for an hour with but little attention; it costs 15s. The construction is shown in the diagram, Fig. 5. *A* is the reservoir

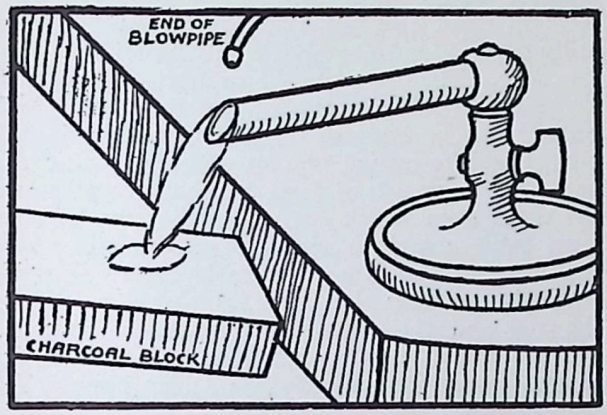


Fig. 3.—The Method of using Jeweller's Jet and Mouth Blowpipe.

two-thirds full of paraffin oil. The oil is put in at the screw-cap *B*; *C* is a little air-tap; *D* is a pump by which air is forced into the reservoir; *E* is the pipe for the oil, which runs from near the bottom of the reservoir through the tube *F*, and escapes by a minute hole at *G*; *H* is a shallow depression at the top of the reservoir. This little cup is filled with methylated spirit, which, when lighted, heats up the tube *F* so much as to turn the oil within to vapour. This vapour, when it emerges from the pinhole *G*, burns with a hot blue flame and rushes forward, heating up the tube *F* on the way. To start the lamp, open the air-valve *C*, fill the cup *H* with spirit, and light it. When it has nearly all burnt away, close the tap *C*, and pump some air into the reservoir. The pressure thus produced will force the oil to escape by the only way now open to it—up the pipe *E*, through the almost red-hot tube *F*, where it will be turned to vapour, and out into the air at *G*. It is well to pump as much air as possible into the reservoir, as this will send a good supply of oil to the vaporiser *F*. To extinguish the lamp, it is only necessary to open the valve *C*; this relieves the pressure in the reservoir, and no more oil is forced up the tube, so the lamp goes out at once. Should one run out of methylated spirit, the vaporiser can be made hot enough by holding it for a short time between the bars of an ordinary fire-grate. It sometimes happens that a larger piece of work than the lamp can properly heat up has to be soldered. The simplest way to overcome the difficulty is to make up a good fire in an ordinary fire-grate and to wait until it has burnt quite clear. Then make a hollow place near the centre and place your work in it. The heat of the fire should be sufficient to make the whole work red hot; and, if the flame from the blow-lamp be brought to bear on it while yet in the fire, any part may be sufficiently heated to make the solder run. The Barthel brazing lamp is similar to the Ætna, described above, but it is made in a much larger size.

The old method of soldering, employed before the introduction of coal gas, was by the use of a charcoal fire, usually excited by the blast from a pair of bellows. This was the method universally employed till the middle of the nineteenth century, and in many places, notably India, it is used to this day. Much of the most beautiful work in existence was executed by its help. Charcoal can be purchased almost anywhere, or it can be made in small quantities as follows:—Fill an iron box—an old iron saucepan, for instance—with small logs of wood; close it to exclude the air, and fasten the lid on firmly with iron wire, but leave an opening for the escape of the gases. Place on a good fire and leave there till nearly red hot and no more gas is driven off. Remove from the fire and leave till cold, and the charcoal will be found ready for use. A cast-iron saucepan is recommended, as a soft-soldered one would probably fall to pieces in the process. Make a tray or "hearth" of sheet iron measuring about a foot across, with sides two inches high. It is well to make it with a turntable as it is a great convenience to be able to turn work about while soldering it. Fill the tray with the lumps of charcoal. The air from the bellows is brought through a flexible tube to the hearth, and enters a small iron box or tube in which a large number of small holes have been drilled. This box

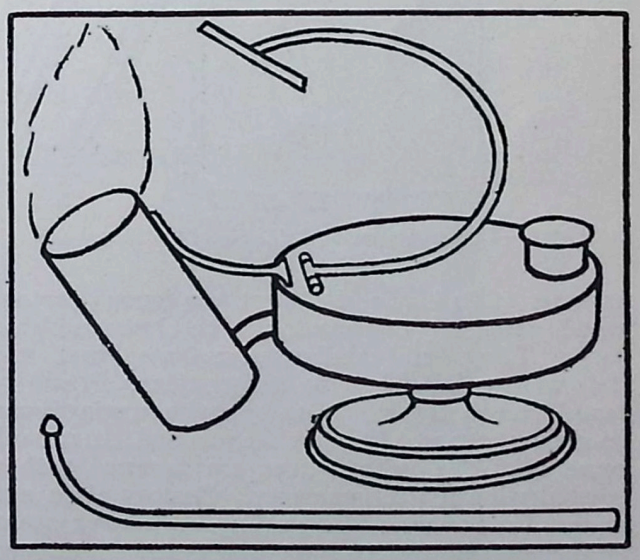


Fig. 4.—Spirit Lamp and Mouth Blowpipe.

is situated near the centre of the hearth. To make the hearth ready for soldering, place a red-hot coal on or near the perforated tube, and heap the charcoal over it. Blow with the bellows, gently at first, but harder as the fire spreads. When a good fire has been obtained, level a space near the centre, and

there place your work, piling up the hot charcoal all round. Work the bellows till you see the solder flow, then stop blowing, and move some of the charcoal away, so that the work may cool down.

The old workers used to have a thin iron bowl, with many holes punched through it from the inside. This bowl they placed over their work and heaped the hot charcoal right over it, peeping in from time to time through one of the punched holes which they left purposely uncovered. The holes in the bowl were punched from the inside with a sharp spike, this left ragged edges on the outside of each hole which prevented small pieces of charcoal from falling in. Perhaps the most useful form of bellows is Fletcher, Russell & Co.'s pattern. A good size is that known as No. 5. It is worked by the foot. On the under side of the bellows is an indiarubber disc, or rather two discs, one over the other, prevented by a net from expanding too far. Their

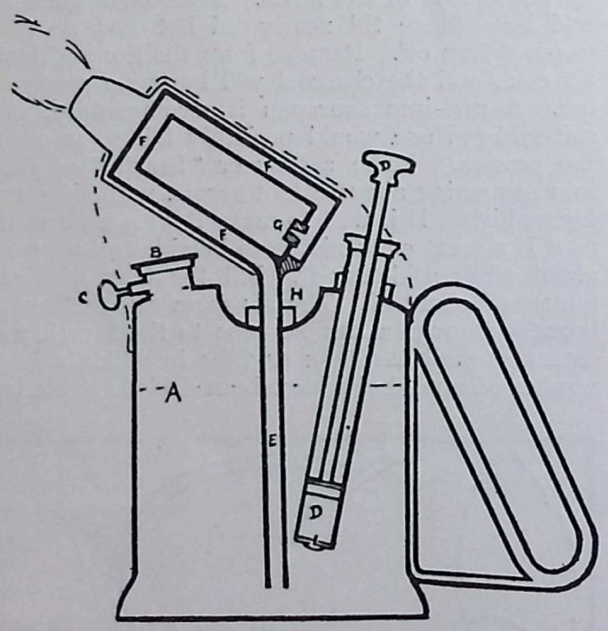


Fig. 5.—Diagram showing Principle of the Blow-lamp.

purpose is to make the blast continuous, for one which came in puffs would not be always satisfactory. These rubber discs sometimes burst, and it is well to know how to replace them. It will be found that the net is held on by a wire running round its circumference. Untwist the join and the net will come off. The rubber discs are fastened with a twisted wire in the same way. Remove them and replace by new ones. In putting the wire on again, be very careful to smooth out every pleat from round the edge and remember to bend the ends of the wires to where they cannot be touched by the discs when expanded. Replace the net as before.

A furnace which will require no belows can be made in the following way. Take some clay and beat it up well with a little sand, and build with it a circular furnace about a foot in diameter inside, with walls four inches thick at the bottom, leave a hole four inches square at one side near the ground. Just above this put an iron grating all over the floor of the furnace. The air will then be able to enter at the square hole and pass through the grating. Build the walls straight up for about a foot above the grating, then arch over the top, leaving room for a piece of three-inch iron piping for a chimney. Leave an opening for a door six inches square at one side, and close it with a piece of fire-brick. Make two or three peep-holes through the side of the furnace, closing them with pieces of mica. Put a thick layer of charcoal over the grating, and light it by putting some red-hot coals among it. Close the door. The heat can be regulated by varying the size of the opening under the grating. The furnace can be built of brick if desired. The iron pipe should be carried into an ordinary house chimney. The amount of heat produced varies with the wood from which the charcoal is made. That from birch gives the highest temperature. When the furnace is hot, the work to be soldered, resting on a piece of thin sheet iron, is placed on the hot charcoal and the door closed again. It is well to watch the work all the time, and to open the door of the furnace immediately the solder flows. This, by stopping most of the draught through the charcoal, will prevent the heat from rising higher and the work may be removed with a pair of long-handled tongs. A furnace similar to this was very widely used in olden times, though bellows were often employed in conjunction with it. Enamelling was done in it also. It should be remembered that the fumes given off by hot charcoal are injurious, they should be led into a chimney or directly into the open air.

To unsolder a piece of work, paint the joint with borax and apply loam to any joints which are not to be disturbed. Heat till the solder melts and immediately lift the loose piece off with the tongs.

HERBERT J. MARYON.

A CASE of considerable importance to users of gold leaf was heard at Birmingham Victoria Courts recently, when Richard Thomas, goldbeater, formerly trading as Richards & Co., was charged under the Merchandise Marks Act, with applying a false trade description, "best English gold," to ten books of gold leaf of foreign manufacture. The prosecution was instituted by the Board of Trade under the section of the Act which deals with false descriptions of place or country in which goods are produced. Considerable trade is done in Birmingham in gold leaf, and large quantities of foreign gold leaf, about 25 per cent. cheaper than the English make are imported. Mr. Spratt, of Huddersfield, decorative artist, received a quotation offering best English 23 carat gold leaf at 40s. 6d. per 1,000. The gold-leaf, however, turned out to be of foreign manufacture, though stamped "Best English." It was admitted that the leaf was produced in Germany, but was not inferior to English leaf. Defendant was fined £10, and costs, and an order made confiscating any other in his possession marked "English."

The Handicraft Studios, Taunton.

WOOD-CARVING AND METAL WORK.

IN these days when Technical and Art education are making such vast strides, when new schools and classes are being opened all over the country, it is a matter of surprise that so few really good classes are open to students wishing to devote themselves to wood-carving. This can hardly be said of London, for the students there certainly have ample opportunities of studying under good masters; but in the provinces this is not always the case, though there are, of course, several exceptions.

While in Taunton recently we were particularly struck with the excellent system of tuition in vogue at the Handicraft Studios, which are under the direction of Mr. W. S. Williamson, and the results of this system were very evident in the admirable examples of the students' work which we had an opportunity of examining.

Mr. Williamson makes it a strong point from the very beginning that students shall work on objects of utility; not anything chosen haphazard, but useful articles that have been carefully thought out and designed, that shall form a graduated course both in technique and the application of ornament. In the case of the wood-carving students, they are at first taught the different grain cuts by means of diagrams, these cuts being incorporated in the designs which they first work on. Lessons are also given in the sharpening of tools, growth and seasoning of timbers, and, in fact, every subject which bears directly on either the tools or materials used in wood-carving. The first pieces of work which the students are started on are a stool, a shelf for china, and a box, each of which bears directly on and illustrates the lessons being given at that time. They then make studies in leading historic styles (all in the form of useful articles), first modelling the design in clay. Afterwards the students are encouraged to work out their own designs, basing them on plant form, and working direct from nature. It is compulsory that all students draw out the designs and work from their own drawings or models.

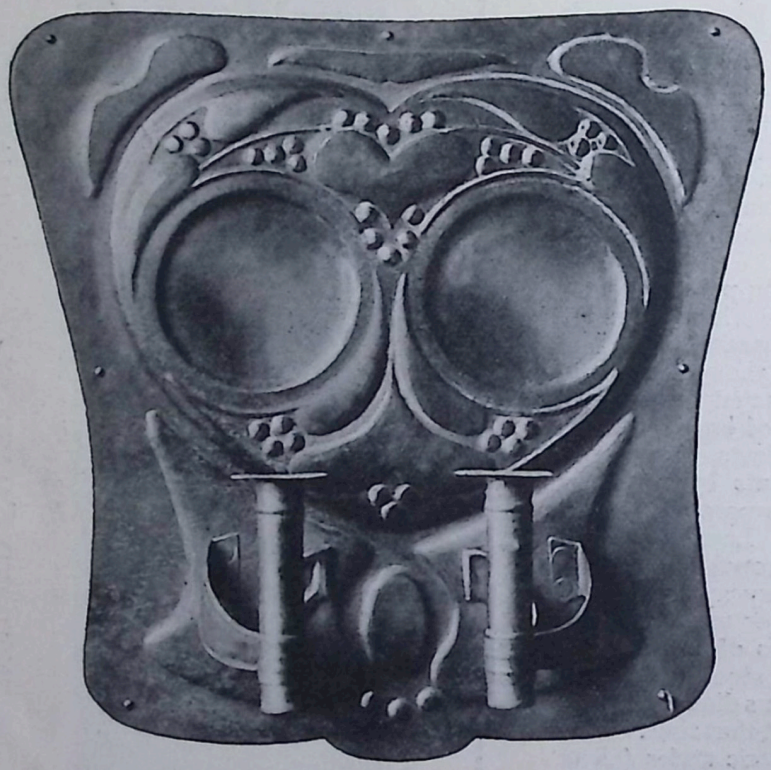
We have so often found that it is the practice in wood-carving classes for the students to work through a number of panels, and we doubt if the students learn much by this beyond mere dexterity in handling the tools and perhaps something of historic styles. Owing to this, the reasons for carving certain elements in various ways, some sharp and well-defined and others soft and low relief, are lost; for these considerations are governed to a great extent by the use the object is put to (for, after all, wood-carving is decoration, and therefore an applied art), the position it has to occupy, and the consequent play of light and shade upon the ultimate situation, a very different thing to its appearance on the bench. All these considerations have a definite

WALNUT PANEL. DESIGNED AND CARVED BY W. S. WILLIAMSON.

bearing on the treatment. These panels are generally eventually made up into some object or other. The construction of that object thus becomes a subordinate factor, as, of course, it has to be made to fit the panel, which is like building a house to fit a piece of furniture. Whenever possible, the article should be made first in such a way that it can afterwards be taken apart for carving the decoration. Thus the work can be viewed *in situ* from time to time during its progress. To a great extent it is this that made the old carvings so successful; they were never misapplied. Mr. Williamson works entirely on these lines, and his success is evident from the work which is produced in his studios. We are able to illustrate a few of these pieces.

The vigorous carved panel by Miss A. Ardagh forms part of the choir stalls in the Bishop's Chapel at Wells. The whole of the bench ends and stalls were carved by students in the different classes throughout Somerset, the chief pieces, including the Bishop's stall, being executed by Mr. Williamson's pupils, who made careful studies of the beautiful screens and stalls in the neighbourhood, and by adapting them to their purpose obtained much of the spirit of the old work. In looking at Miss Ardagh's panel, it is apparent that the fact of the panel being below the eye when in position has been considered, for the shields have been pitched back on their top edges, as is the foliage, in order to meet the angle of vision and present a fair view to the spectator. The deep under-cutting being kept below hides all the ugly walls of wood; the light striking down also gives additional value to the shadows. Altogether the carving is characterised by great vigour.

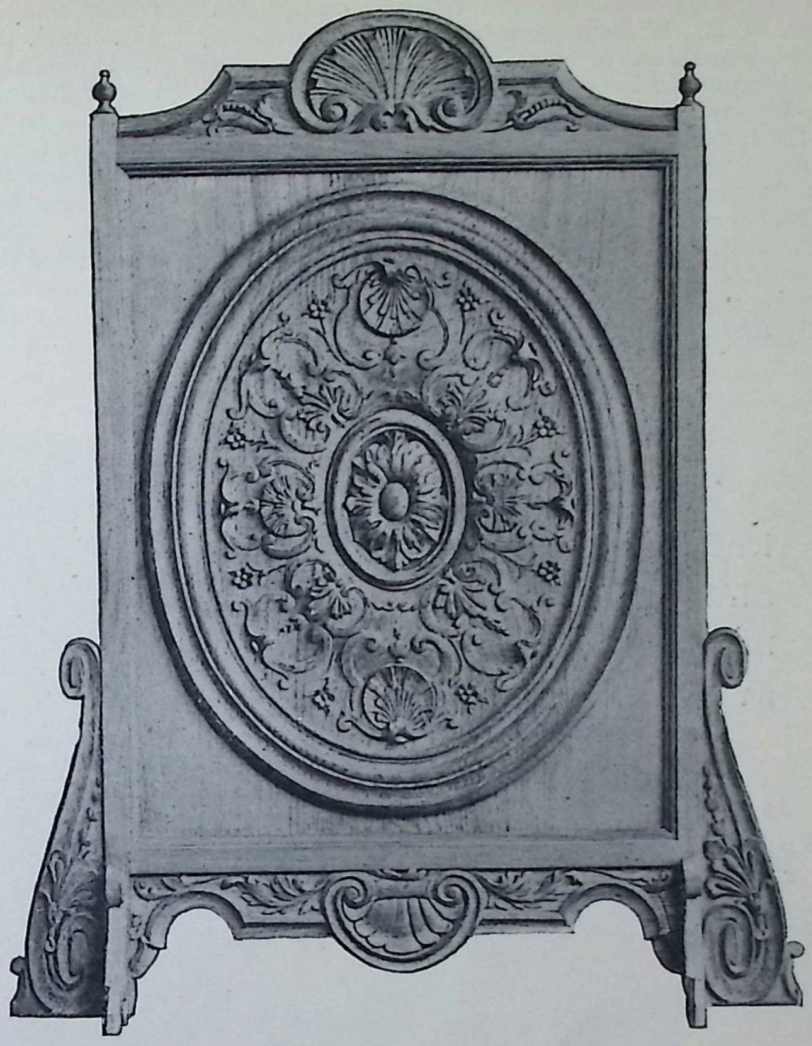
The grate screen by Miss Wood is a well-executed and delicate piece of workmanship, the ornament being on an ogee ground, *i.e.*, concave on the outer and convex on the inner edges. We also illustrate two admirable pieces of carving by Mr. Williamson himself. The panel which forms part of a writing table evinces much grace and feeling, and the idea of the design carefully thought out, the lion's head forming the principal mass, while subordinate masses are introduced on either side, and part of the foliage worked round with fluters and dying away into the background, thus attaching the ornament to it.



COPPER SCONCE
(SIZE 18 IN. × 18 IN.)
DESIGNED AND
EXECUTED BY
J. POOLE

Mr. Williamson also holds classes for metal work, to which the same careful thought and instruction are given. The copper repoussé candle sconce, which we illustrate, by Mr. J. Poole, is a conscientious piece of work, showing a true treatment with metal. The design based on the briony is cleverly arranged so as to form reflectors, the soft modelling of the

GRATE SCREEN · DESIGNED BY W. S. WILLIAMSON (CENTRE ADAPTED FROM FRENCH CARVING) CARVED BY MISS L. WOOD



CARVING FOR CHOIR STALL IN THE BISHOP'S CHAPEL · WELLS

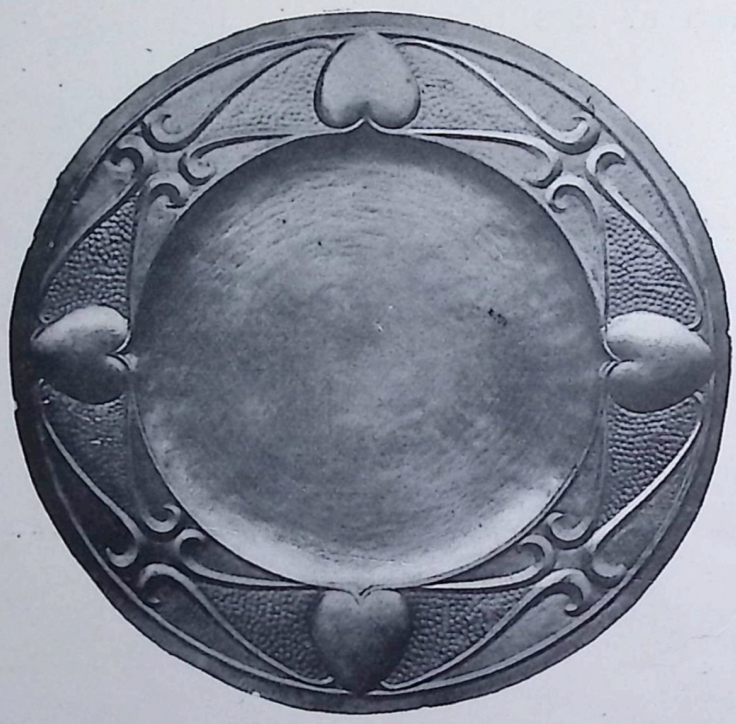
DESIGNED AND CARVED BY MISS A. ARDAGH

leaves being admirable. The repoussé copper alms dish, by Mr. Williamson, is an original conception, and is symbolical of one of the beatitudes, "Blessed are the pure in heart," represented by the leaves of the lily springing from the hearts, the arrangement of the latter suggesting the form of a cross.

As in the case of most of our successful carvers, Mr. Williamson received his early training at the School of Art Wood-carving, South Kensington. He afterwards went into the trade and studied at various schools of art. He holds the School of Art Wood-carving first-class certificate, also the Society of Arts medal, awarded at the Arts and Crafts Exhibition, ten other gold, silver, and bronze medals, and innumerable certificates. Our Somerset and Devonshire readers may be glad to know that Mr. Williamson, besides having his school at Taunton, holds classes at the Tiverton School of Art, the Bridgwater and Weston-super-Mare Schools of Art, and also at Clevedon.

REPOUSSÉ COPPER ALMS DISH

DESIGNED AND EXECUTED BY W. S. WILLIAMSON



JAPANESE BLOCK PRINTING.

THE Japanese print from type, and from wood or steel engravings in relief. Except the daily newspapers, of which there are now about five hundred, nothing is printed by steam. Even the use of a hand press is dispensed with, the prevailing process being that employed by the makers of the block books of the Middle Ages. The wood blocks are of cherry, and are usually engraved on both sides. The parts of the block unoccupied by the design, instead of being routed away, as in our wood engravings, are left untouched, the wood being gouged away around the lines of the design only. This fact alone would render it impossible, or nearly so, to print from them on any sort of a press; but, printing in the Japanese fashion, it leads to no inconvenience. The printer has before him a saucer with India ink, and several bowls containing the other colours in powder. These colours are mixed with water, and are applied to their proper blocks by means of a very thick and stiff brush, there being one such brush for each bowl. The colour is spread over the engraved portion of the block, which absorbs a part of the water. For this reason wood is preferred to steel, except for books of which very large editions are published. The paper is placed on the inked block, and the impression is taken by means of a disk covered with the broad leaf of some water-flag. It is thus, practically, a printed water-colour, and, as may be observed in many Japanese prints, it has several of the qualities of a water-colour, especially in the softness and continuity of the gradations, obtained by a slight lowering of the surface of the relief.

The survival of this primitive method of printing is owing to the fact that labour is still very cheap and very skilful in Japan, so that for small editions it would not pay to buy the costly plant of a steam-printing establishment. The results are so artistic, and have so many advantages over our style of printing, and the sort of engraving necessitated by it, that one may be tempted to hope that the Japanese printer will long hold his own against steam.

French Polishing

AS APPLIED TO DECORATIVE WOOD STAINING OR MARQUETERIE PAINTING.

BY WILLIAM DANIELL.

ALL those who practise the art of decorative wood staining will agree that the work is seen to better advantage when French polished, as the work is incomplete until the colours have been fixed with varnish or polish. French polishing is an indispensable finish.

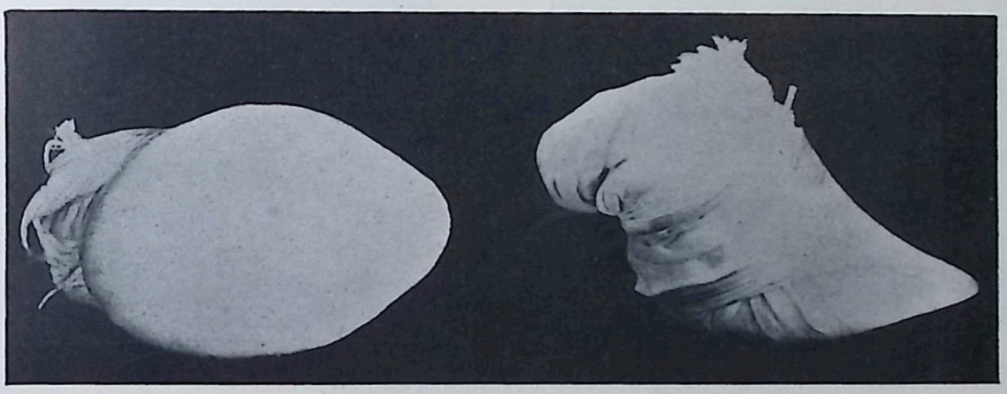
Those who live in the country will find it very difficult, if not impossible, to have the work French polished by a practical French polisher, and even those who live in the town will find it no easy matter to find a professional polisher who will undertake to make a first-class job. Not that he cannot do it, but because it is not worth his while to give these small orders the attention they require.

Apart, then, from the satisfaction one feels in doing the work throughout, it becomes almost a necessity to learn how to French polish.

Most amateurs are rather afraid of trying to French polish their own work; and I am not surprised at that, as nearly all the books I have seen on French polishing (intended for the instruction of amateurs) would require the knowledge of a professional to eliminate the "wheat from the chaff"; they consist for the most part of a number of recipes that can only confuse an amateur.

As a practical French polisher, trained in the workshop and with some years' experience as a teacher, I know that it is impossible to learn French polishing from a book sufficient to qualify anyone to earn a living in the trade. Only years of practical experience will do that; but anyone who will follow these directions carefully may, with practice, learn to polish their own work. Of course, a few additional practical lessons from a practical teacher would be an advantage, but be sure that your teacher is practical, and not a novice.

Now, as to the nature of French polishing. During my experience as a teacher, I have almost invariably found that my pupils had a preconceived idea of the process that had to be removed before they could make any progress. The idea seemed to be that French polishing was something like polishing brass or silver, that the more one rubbed the brighter the article would become. This conception of French polishing is the cause of many failures. A French-polished surface is produced, not by the mere action of rubbing, but by the application of a great number of very thin coats of polish applied with a "pad" or "rubber." Every time the rubber passes over the work a layer of polish should be deposited; the film so obtained is called the "body," and any attempt to remedy a dull place by mere rubbing, as one would a dull place on brass, can only end in breaking the "film" or "body."



1. 2.

FRENCH POLISHING "RUBBER."

1.—Face, or Underneath Side. 2.—Side View.

FIXING.

Before commencing to polish stained or painted work with a pad, the colours must be fixed. To do this, pour a little varnish (French polisher's varnish) into a cup or shrimp pot, or any container (not made of iron) that will not expose a large surface to the air, and apply with a camel hair brush. Use a full brush, and apply lightly and evenly. The brush must not be worked backwards and forwards, as this action will tend to blur the colours. One

layer of varnish must be allowed to dry before another is applied. Repeat this process until a shiny appearance is secured; usually four coats of varnish are sufficient.

The work should now be put aside for about twenty-four hours, to allow the varnish to sink into the wood and to harden.

Smoothing Down.

On taking the work up again, it will be noticed that it is rather rough. This is due partly to the rising of the grain and the unequal levels of the varnish. To remove this roughness, rub carefully with No. 0 glasspaper; but, before papering, oil the work with raw linseed oil.

The smoothing or glasspapering of the work is a most important operation in French polishing, as it helps to fill the grain and level the surface, and whenever the surface is found to be rough or uneven glasspapering must be resorted to. After glass-papering, rub the work over with a clean rag to remove the dust and oil. It is then ready for French polishing with a "pad" or "rubber."

To make a pad or rubber, take a piece of grey wadding, and fold it up tightly in the form of a foot. (See illustration.)

Then saturate the rubber with the polish through the surface of the rubber, and cover it neatly and firmly with a piece of old linen or calico. About one-third of the wadding should be bound round to form the handle of the rubber. The size of the rubber must be regulated by the size of the surface to be polished. To polish a photo frame about 9 in. square, take a piece of wadding about 3 in. square.

When the rubber is wet and covered with the rag, take it in the fingers and press it, face downwards, on the flat surface of the bench or work table. This will press the rubber into shape and squeeze out the superfluous polish.

"Bodying-in."

Applying the first body of polish is called "bodying-in." To do this, take the wet pad or rubber between the figures, and rub evenly and lightly from end to end of the surface to be polished, with just sufficient pressure to force the polish through the rag on to the work; obviously, the more polish there is in the pad the less pressure it will need to bring it through.

After rubbing two or three times from end to end, put a spot of raw linseed oil on the face of the rubber, and then work the rubber with a circular movement. (See Fig. 2.)

Never allow your rubber to rest on the work. Do not rub round and round in the same place, but keep the rubber travelling all over the surface to be polished. When putting the rubber on the work, do so with a sliding movement. When taking your rubber off the work, slide it off.

Rub until the rubber is nearly dry, then take the rag off the rubber, re-wet, and cover it with the rag as before (but use a clean part of it), and repeat the former process. Rub two or three times from end to end, and then in varying directions more or less circular. This process is repeated until there is a film or "body" of polish all over the work. It should then be allowed to stand for about twenty-four hours to allow the "body" to sink into the wood.

The Correct Way to Hold the "Rubber."

"Bodying-up."

After the work has stood for twenty-four hours or more it should be examined, and, if it is at all rough, or should there be any ridges of polish, it should be oiled over and rubbed down with No. 0 glasspaper, dusted, and repolished with the rubber as before. Commence by rubbing lightly, and gradually increase the pressure as the rubber becomes drier. This is to be repeated until the pores in the wood are stopped, and all scratches made by the glasspaper filled up. The work should now stand for another twenty-four hours.

Finishing Body.

The work, now being smooth and "bodied up," will not, or should not, need any glasspapering; but it should be oiled over, and the oil well wiped off. Before recommencing to polish, the work must always be oiled over, and the oil well wiped off. The reason

for this is that, when polished work is allowed to stand between the "bodyings," there is always some oil left on the surface. This oil sets and forms a film, and, if this film is not removed, the next body may not adhere to the previous one. After wiping the oil off, mix in a bottle two-thirds of polish and one-third of methylated spirit. This is to thin the polish, so that the layers will be thinner and more easily cleared out without showing any rubber marks. Apply this thin polish with the pad as before, but use a little less in the rubber. As the rubber becomes dry, rub straight from end to end of the work until the rubber is quite dry. The surface should now look bright and free from rubber marks, but there will still remain a film of oil that must be removed. This is done by means of a spirit rubber.

opaque or "milky," it is a sign that the air is damp. Stop at once, and hold the work where it will receive some warmth from the fire; but not close to the fire, or the polish will blister.

Wherever the polish is rough or scratched, smooth it with glasspaper.

Do not glasspaper your work when the body is soft.

When the rubber is working right, when there is just the right quantity of polish and the right quantity of oil, the rubber will leave a slight smear and have a slight pull.

If there is no smear and the rubber slides over the work without a slight pull, look at the face of the rubber. If it shines, change the rag. If that does not produce a slight smear, use more polish.

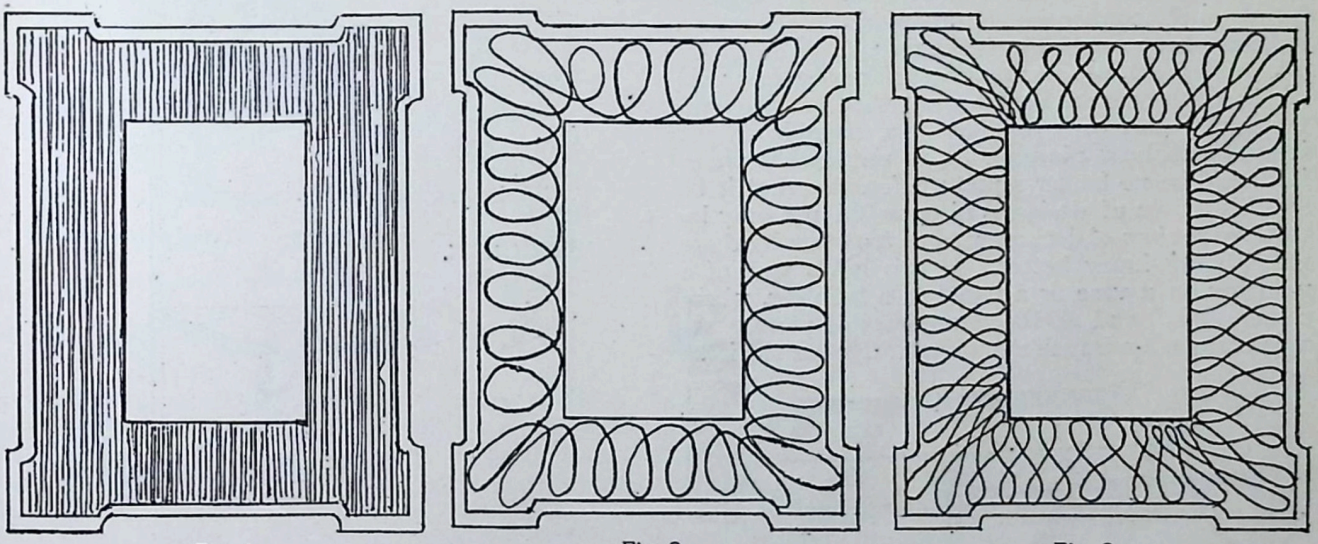


Fig. 1. Fig. 2. Fig. 3.

DIAGRAMS SHOWING THE DIRECTIONS IN WHICH THE "RUBBER" SHOULD BE MOVED.

SPIRITING-OFF.

Take a fresh piece of wadding, free from polish or oil. Mould it up like the polish rubber. Apply a few drops of methylated spirit to the back. This will soon work through to the front, but will be better distributed through the rubber than it would be if the spirit had been applied to the front.

Cover the pad with a double piece of clean rag, and press it on the back of the hand. This is the only way that an experienced polisher can be sure that the rubber is not too wet. If the rubber feels cold and wet, it must be rubbed on the hand until nearly dry. Then rub the work lightly and quickly from end to end until all the oil is removed. This may be tested by drawing the fingers *lightly* over the surface. If it leaves a greasy mark, wet the spirit rubber and proceed as before. This process must be repeated until all oil is removed. The work is now finished, and, although there are many other ways of finishing, this is the best.

POINTS TO BE REMEMBERED.

Do not polish in a damp room. If the work looks

If there is no smear and the rubber drags, use a little oil, just enough to produce the slight smear.

Use as little oil as you can.

Every time the rubber passes over the work, it should deposit a thin layer of polish, therefore, do not rub one part more than another.

French polishing is not like polishing brass, therefore do not try to remedy a defect by rubbing over and over again in the same place.

Rubbing too heavily or too long on a small surface will soften the "body." The polish is then likely to be rubbed off or rubbed into ridges.

Be very careful that the spirit rubber is not too wet, or the spirit will go through the oil, and leave a mark on the polish.

Do not forget that when the work has stood after a body of polish has been applied, there is a film of oil to be removed before another body is applied.

Clean varnish brushes in methylated spirit.

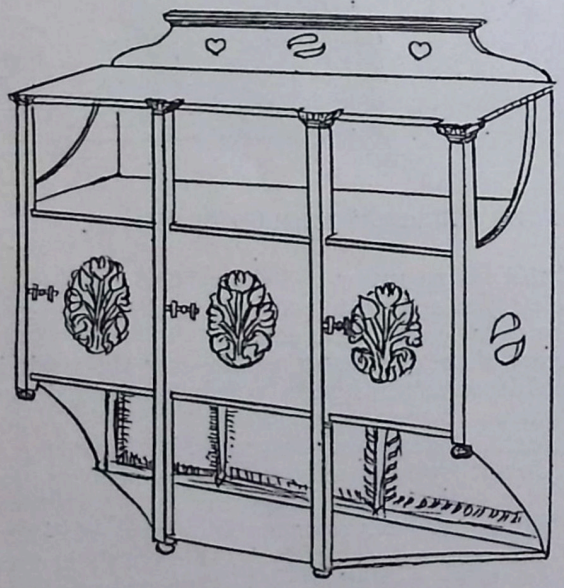
Keep your rubber in an airtight tin, as an old rubber is better for the finishing body.

WM. DANIELL.

Fret-sawing.

PANELS TO BE APPLIED TO FURNITURE.

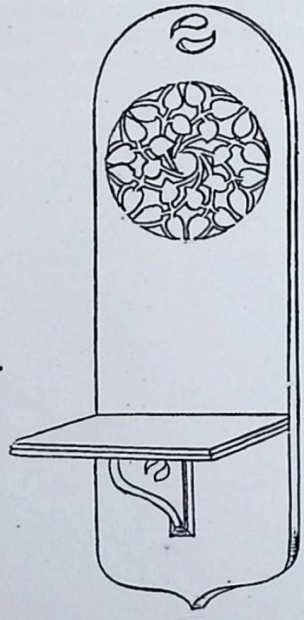
EVEN its stoutest champions would hardly venture to deny that the craft of fret-sawing has somewhat fallen into neglect in many households. More especially is this true of artistic people, those who have some notion of the fundamental principles of decorative art. Nor is this neglect hard to explain; for, in a method that promises complete success only when the design has been kept strictly within the limits imposed by the material, the wildest devices have been attempted. In no art work is the distinction between pictures and ornament—literal reproduction of natural forms and conventional ornament based upon nature—more needful to insist on than in this. In all applied art, the moment a surface becomes part of an object intended for use, whether that use be merely part of a building or a movable article, it ceases to be a picture; or, to put it more truly, it should be no longer a picture, for, alas that it be so, this axiom of design is disregarded not only by the lowest class of decorators, but too often by those who should know better. If this holds true of a painting on a vase or a panel of a building, where colour, relief, and all the accessories of picture art are possible, how much more imperative should it be



A HANGING CABINET, WITH FRET-SAWN ORNAMENT. BY F. SANGORSKI.

in the limit of fret-cutting. For in this work the finished design is not even a silhouette; the cut edges insist on adding a sort of perspective that, nevertheless, unlike the surfaces of carved ornament, must be a hindrance to all forms that essay to be transcripts of nature. Yet portraits, landscapes, naturally treated human figures and animals—all and everything has been parodied in fret-cutting, to the degradation of a really pleasant minor art.

In the designs which this paper aims to describe, the effort to preserve natural forms, but in a purely conventional way, has been attempted, with what success it becomes us not to say; but we can say



A WALL BRACKET, SHOWING FRET-SAWN PANEL. BY F. SANGORSKI.

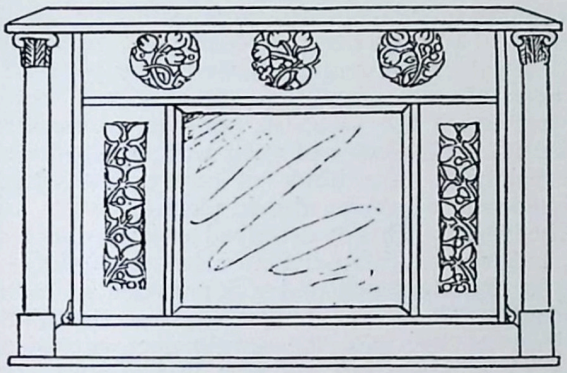
that at least the method is the true one, however far the examples fail to do it justice.

But the count against fret-work is not based solely upon the unsuitability of its more widely known patterns. There is yet another aspect of its decorative treatment. It may be conceded that all satisfactory ornament applied to a movable object, such as fret-work, should be so designed that the whole is ornamental as well as its separate parts. To illustrate my meaning: If a bracket of otherwise excellent design and faultless workmanship has yet a shape so formless that at a distance it is a mere blot upon the wall, it cannot be good. There is no reason why the whole shape when seen from a distance that loses all its details should not yet yield a graceful outline. We have all seen such work that had a vapid, unmeaning edge, of no interest whatever once you had ceased to see its details. If you cut to the outline of its features an ordinary woodcut of a landscape, and look at it from the back, the cut-out piece of paper is an inchoate mass of curves and notches of no beauty.

For this reason, as well as adding to the stability of the work, it is best that a good border of uncut wood should, as it were, enclose the design every-

where. This point need not always be insisted upon to its bitter end; finials and crestings and various features may be left unprotected by this border. But, looking to the weakness of the same wood, the rule, in spite of its exceptions, should yet be held binding.

In place of fret-work completely forming one article, panels of fret-cut wood, inserted in ordinary joiner's work, are, as a rule, more decorative. For too much ornament defeats its own end: not only does it soon become meretricious and vulgar, but it



OVERMANTEL, WITH FRET-SAWN PANELS.
BY F. SANGORSKI.

bewilders in place of pleasing. A few panels of good design, be they painted or carved, a well-arranged moulding, or a little ornament emphasising the salient portions of a work, decorate such work far beyond a medley of so-called decoration lavished indiscriminately over the whole thing.

In these designs, in place of giving the pattern for one use only, a series of panels, with diagrams suggesting their after-use, has been the plan chosen. In these panels (see Supplement), the ornament being well protected, the feature of strength has been little regarded; but if worked in wood they must be of the sort known as three-ply. But metal, while hardly more difficult to work, is so little used that it is hoped some will boldly try these in thin sheet brass or copper, and so produce decorative work that gives a little finishing by the graver here and there. Just a few scratches to bring out parts that appear to overlap, or suggest the veins of leaves and the marks of flowers, will result in objects of some little beauty in themselves and excellent decorative additions to all sorts of things.

The diagrams show various structures to be made, relying solely on these fret-work panels (whether of wood or metal) for the decoration.

One shows a useful bracket. Since whatever is carried thereon necessarily hides the carving, this is placed at the top, with an effect not unpleasing in itself and more reasonable than the more usual method. Another sketch is for a small corner cupboard.

The other designs are for overmantels, from a very simple kind to those requiring some careful joinery. These too are explained by the sketches.

As fret-work is rarely pleasant when polished, walnut, oak, or other dark woods are the best to use for these panels.

One very uncommon and yet beautiful treatment is to chase a light coarsely grained wood, such as birch, and stain it a grass green with transparent stain. Then, when polished, the flickering lights of the pattern of the grain of the wood enrich the wood wonderfully.

For all these purposes wood stained a dull black is peculiarly economic, for then almost any variety may be used in the same article, and yet the final staining gives a complete finish to the work. But since every man's taste and need varies, a more detailed description is needless, for those who intend to manufacture have often a foregone idea, so that they shape to their own ends the instruction provided. G. W.

(Further designs for panels will be given in next month's Supplements.—EDITOR, A. & C.)

The Art of Damascening in Japan.

BY FLORA OAKLEY JANES.

KYOTO, the old capital of Japan, which for eleven hundred years was the heart and centre of every art impulse in the empire, was the seat of the industry of damascening in the riper days of the feudal empire. For three hundred years the art has flourished there in the patronage of Court and warring clans; and to-day the most elaborate gold inlaying in Japan is done by a dozen or so of workmen in three little shops in out-of-the-way corners of Kyoto.

Damascening as done in Kyoto takes one step beyond the possibilities of bronze work, inasmuch as it adds the hair line to the bronzist's methods. All metals and all alloys are laid under contribution, though gold and silver upon iron are given the preference for the fine contrast they afford; while the stress is put upon inlaying and carving processes rather than upon the fusing and mixing of metals in delicate proportions as in bronze work. One peculiarity is highly noticeable in all metal work in Japan. A Japanese has no prejudice which leads him to place one metal before another for its mere costliness, any more than a western artist in oils would think of using his most expensive colours all the time instead of the most effective ones. This may be depended upon as a main distinction between East and West in metal work. Copper, for instance, may very readily take precedence over gold, or iron over either one. The place in the colour scale would determine the selection of any particular metal, not its intrinsic value.

All processes possible in combination are at the disposal of the worker in damascene. He may inlay, carve, engrave, and even fuse, though he places less reliance on fusing than the bronzist does.

First, the plate of metal—iron or soft steel—to be ornamented is firmly embedded in a block of rosin

to give facility for handling. But iron or soft steel in its crude state is intractable for inlaying, and the worker must uniformly break up the stubborn texture of his metal plate to obtain a surface which will both receive and hold the inlaid decoration. This work, however important, is but preliminary, and is entrusted to the apprentice. So, with a toy chisel and a make-believe hammer, he sets to work. Moving the chisel slowly over a bit of space as long as the width of the tool—say, a quarter of an inch—he beats a continuous tattoo upon its flattened top, the result being a tiny square of vertical hair lines, like the shade in an engraving. Then he turns his block at right angles, and makes a second square adjoining the first; turns again, and makes a third, until the plate has become a checker-board, the squares of which are of alternate vertical and horizontal parallels. This, of course, has taken time, but the work is only just laid out. Again the surface is patiently gone over in the opposite direction, that is, the vertical hair lines are crossed by horizontal ones and vice versâ. A third time the process is repeated with diagonals, and a fourth with other diagonals crossing the previous ones in checks. The master of the shop now runs his finger over the plate, and pronounces it ready for the design.

Meantime the gold has been prepared. This comes from the gold-beater in thin ribbon plates. The master himself cuts them into convenient lengths of about 3 in., and then with a pair of scissors, which he stops every other minute to whet, he pares one hair's-breadth after another so fine that a dozen have to be cut before the ribbon is perceptibly narrowed. A glance over the rim of his goggles now brings a boy to the *hibachi*, who quickly starts a glow among the three or four bits of charcoal by blowing the flame through a bamboo stick with the bellows given him by nature.

It is this extreme simplicity of method and paucity of means to do with that makes a piece of fine Japanese work of any kind seem little short of a miracle to a "foreign barbarian." It compels an intimacy with raw materials and a sharpening of the faculties that amounts in practice to an added sense. A few minutes of blowing and the strips are all cut, the coals bright red, and all in readiness. Taking the bamboo tube from the boy, and with the other hand deftly picking up a little platinum dish of the gold shavings with a pair of chopstick tongs, the operator balances the dish nicely on the coals. Before a degree of heat has been reached sufficient to melt the gold, he carefully picks out one of the hot wires, and, laying it on a steel plate, rolls it with a spatula until the angles and kinks have disappeared, and the wire itself is as fine and even as a hair from a baby's head, and almost as pliable. All are treated in turn, and the materials are now ready for manipulation.

A favourite Japanese treatment of damascene, as has been said, is a medallion outlined boldly with a coarse wire, within which a design is delicately wrought in gold. It may be in the space of a square inch, to represent, say, a temple garden or a palace park, both subjects commending themselves for minuteness of detail in foliage, water, boats, lanterns, temple roofs, distant mountains, and clouds with an inevitable flight of birds disappearing into them. The ground is then completely filled with some all-over pattern of chrysanthemums or Paulownia, for instance, executed with almost microscopical delicacy and precision.

The article to be decorated may be a fan-shaped jewel box. A medallion of the same shape will be outlined on the lid in coarse silver wire, and filled in to represent a vista of hills with water and pine-tree foliage in the foreground, while the body of the box may be covered with a running pattern of tufts of pine needles. A Greek key may finish the edge of the lid, and the bottom may be covered with an all-over adaptation of the Greek key, a pattern which the Japanese, however, claim as an independent invention of their own, suggested by the lightning. The inside of any box is always finished with a hammered gold plate.

The two steps already described are quite mechanical, but to produce a pattern or design requires not only a delicate touch and a knowledge of metals amounting almost to an instinct, but the ability at least to copy with the utmost accuracy, if not to work a design out and out in freehand. The cross-hatched surface of iron is such as to make a preliminary outline drawing impracticable. The artisan is an artist to the extent that his eye alone must guide and determine his work. When he has mastered his means of expression, his task is the artist's task to make a sketch. He makes it on an iron plate in lieu of paper, with gold wire tracery in place of ink.

Picking up a wire, he touches it to the iron, guides it along with the chisel to form the line he has in mind—a mountain slope, the sag of a cottage thatch, or the pinion of a bird—cuts it off at the proper length by a slight pressure of the chisel edge, and gives the line a few taps with a spidery hammer, repeating the process till the main features of the design are indicated.

The entire plate is then given a thin coat of lacquer, through which, when dried, the gold work is easily made to appear on being rubbed with a steel polisher. The plate is thus made ready for the next less important details. These are then added, and lacquer is again applied. The process may be repeated until a design has been worked over twenty times. By such a mode of procedure the workman is not only enabled to keep the proper proportions of space which the infinitude of details might otherwise encroach upon, but lacquer has been so forced into the pores of the iron as to make it proof against rust, though lacquer does not at all appear on the finished surface.

Considered as workmanship, damascene has great durability. When one end of a wire has been touched to the iron and given a smart tap or two with the hammer, it is possible to draw a heavy plate freely about on the table by the wire or even to lift it in the air. The wire will break before the end will be detached.

The Craftsman, Syracuse.

Bookbinding.

A NEW SERIES OF PRACTICAL ARTICLES ON BINDING, TOOLING, AND DESIGNING.

By F. SANGORSKI, Teacher at the Northampton Institute, and
G. SUTCLIFFE, Teacher at the Camberwell School of Arts and Crafts.

XVIII.—Tooling the Outsides of the Cover.

(Continued.)

When using a large tool, such as our flower-tool, it is often advisable to lay on an extra coating of glaire. Tooling that is dull through being burnt can often be brightened by simply stamping the tool in again, when fairly cool, but the face of the tool should be well polished. It is, however, always well to do this with very solid-faced tools; it is not necessary to lay on more gold.

When tools have been impressed in the wrong places, the impression can be soaked out with water or vinegar. As an assistance in removing the impression a needle can be used and the leather pricked up.

The front cover should now be tooled, and the decoration of the back has next to be considered. However, before we commence this we must decide on the amount of space that will be required for the lettering.

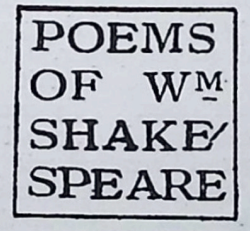


Fig. 81.

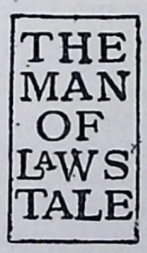


Fig. 82.

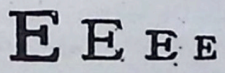


Fig. 83.

XIX.—Lettering.

As the title is really the only essential thing that need appear on the outside of a binding, it should be well in evidence. Lettering, when well arranged, rather adds to the decoration of the back, but it should be in a well-formed type and of a reasonable size. As the thicknesses of books vary so much, considerable ingenuity is often required to make the titles look well and of sufficient importance. When long words appear in conjunction with narrow backs, the title would have to be either in a very small type that would hardly be legible, or the long word would have to be broken. When the word can conveniently be broken we think this is the better plan. There is another alternative, however, and that is to put the title along the back. When this has to be done, it is advisable to sew the book on but two cords, with two tapes between, as in Fig 84, or entirely on tapes, so as to have a surface uninterrupted by bands. This method of sewing we

Fig. 84.

Fig. 85.

shall describe later. The size of the type must vary, of course, with the amount of lettering to go on, and

with the size of the book. The four sizes given in Fig. 83, will be found convenient for the majority of books. When the back of a book is to be decorated, an endeavour should be made to get the lettering of equal weight with the decoration. A panel with insignificant lettering in it will certainly not look well with the other panels heavily decorated, and to avoid this one is more justified in breaking a long word if by that means letters of a good size can be used (Fig. 81). When the line is only a letter too long, the difficulty can sometimes be overcome by inserting a smaller letter, as in Fig. 82. This, however, must be treated with discretion, as one would hardly be justified in destroying the legibility of the title. With less decorative work, the only reason one would have for breaking a long word would be so as to get the

LT FA VA

WA TA LY

Fig. 86.

LTE Fig. 86A.

SESAME
AND
LILIES

BY
JOHN
RUSKIN

Fig. 87.

title in an easily readable type. It is customary now to place the title in the second panel from the top, and the author's name in the third panel. With a decorated back it will be found an advantage to have one well-filled panel rather than two scantily filled ones (Figs. 85 and 87). With expensive bindings it is not consistent to treat the title of the book too briefly. The lettering panel looks best when it is well filled with lines of equal length, but this is, of course, not always possible. The letters should appear to be equally spaced, but it is allowable to slightly increase the spacing in a line if by doing so it can be extended to the length required without looking unduly extended. Usually the lettering looks best when each line is centred in the panel with an equal space on either side.

Lettering should be made out on a thin, strong paper; Whatman's Cream Laid Bank answers the purpose. It is necessary to have a thin paper, as the letters have to be stamped through it on to the leather, and if thick very little impression would be obtained; but the paper must be strong, or it would break owing to the letters being impressed.

Measure the length of the panel to be lettered, and cut a strip of the paper to this measurement, and about six inches long. Then hold this paper on the panel and mark off, at about the centre of the strip, the width of the back, taking care to mark well above the joint, for the creasing of the leather with the opening and shutting of the book would destroy any tooling that was placed there. Fold the paper on these marks, carefully placing the edges together, so as to get the folds at right angles with the edge of the paper, thus marking clearly the width of the panel, and then fold in half, so making a centre line down the panel. If it is intended to have a line round the lettering, the lettering must not be allowed to extend to the full width of the panel for this line will be marked in on the folds. For purposes of illustration, we are supposing that the title of our book is "Sesame and Lilies, by John Ruskin." The first thing to do is to decide upon the size of the letter to be used and the number of lines that it will make. To arrive at this, take a letter of an average width, such as an "E," and mark in a line as many as there are letters in the longest line that you anticipate having. With our title seven "E's" placed in a line will give us a rough idea as to the length our longest line will be if that type is used, for we intend placing "BY JOHN" together, and the space between should be counted as a letter. The letters must not be placed too close together, for when impressed into the leather they require slightly more space than when marked on the paper, and though they may appear to have just sufficient room on the paper they would likely be quite touching when on the leather. For the inexperienced worker it will also be found much less difficult, if a fair space is allowed between the letters. Placing both the title and author's name in one panel, we have five lines, and we have now to decide upon their positions in the panel. Take one of the letters, and on the paper, outside the panel, arrange as many impressions of it, one under the other, as there are lines. This can be done until a suitable distribution is arrived at. Having, as we have, a number of lines that will just go comfortably in the panel, there is not much choice in the matter, but the arrangement of two or three lines in a panel will be found more difficult. In Fig. 88 the impressions of "H" show an arrangement of 1, 2, 3, 4, and 5 lines. When having several lines they should appear to be equally distributed over the panel, and not all compressed in the centre, as is shown with the three "H's" on the left-hand side of the panel in Fig. 88. It will be noticed that there is a slightly larger margin below the lettering than above. This is because anything placed exactly in the centre of a panel is apt to look below the centre. This should never be done to such an extent as to look very apparent. The aim should be to make the lettering look exactly in the centre. The necessity of it increases with the size of the margins. When dealing with such small spaces as we have in our four and five lines, only a very slight lengthening is needed. An unequal distribution of weight in a lettering has also to be reckoned with. When having a long line at the top and a short line at the bottom, the extra allowance in the margin at the bottom can be entirely dispensed with; and if vice versâ, as in "By John Ruskin," Fig. 87, it must be increased. When making out

letterings a line is marked for guidance, and the tops of the letters are placed exactly up to this line, so that, having arrived at a suitable distribution of our lettering, we have now to mark these five lines on our paper. Measure, with a pair of dividers, the distance from the top of the paper to the top of the first letter. Mark this off on either side of the panel, and connect the two points with a line marked with the point of the dividers. The dividers are used for this purpose because a finer line is thus made than a pencil line, and it is essential that the line should have scarcely any thickness. Care must be taken to see that the point is not sharp enough to cut the paper; it is also liable to do so if held too upright. Then measure the distance from the bottom of the paper to the top of the last letter, and mark a line on the panel this distance from the bottom. We have now the first and last lines marked, and to get the remaining three divide the space between them into four. If four lines are required, mark the first and last line and divide the space between into three; and if three, divide into two. A black impression of the letters can be made by holding the letter in the flame of a candle until the surface has blackened. After making a few impressions in this way, each letter will require cleaning on a piece of leather, as the hollows in the letter are apt to fill with the candle black. The easiest way of making a line of lettering that has to extend equally on either side of a central line is to start in the centre and finish one half first. So the first thing to do is to find out what will come in the centre of the line. Our first line is "SESAME," and is composed of six letters. If letters were all of equal widths there would be no difficulty in estimating the centre of a line;

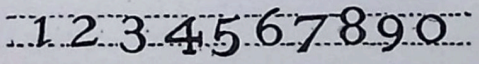


Fig. 89.

in our case, three letters would come on either side of the centre. But not all letters are of the same width; for instance, "W" and "M" are much wider, and "I" and "J" much narrower than the other letters, and a number of others also differ slightly. There are also a number of letters that when they come together their shapes fit one into the other, as in Fig. 86, and are very convenient when it is necessary to economise space. Even though there were no necessity for this it would not look well if the same space were allowed between these letters as between other letters. This is illustrated in Fig. 86A, where there has been just the same space allowed between the "L" and the "T" as between the "T" and the "E." So, in estimating the centre of a line of lettering, all these considerations have to be allowed for. In "SESAME" we have an "M" on one side and no letter of equal width on the other to counterbalance this, so that, placing the "A" down first, it should be placed just touching the central line of the panel; consequently all the space allowed between the "S" and "A" will be on the other side to make up for the width of the "M." Should an "I" have been on the same side as the "M," there would have been no necessity for this; but should it have been on the opposite side, even greater allowance would have to be made, the "A" being then placed in the centre of the panel. The "M" and the "E" should be marked and then the panel folded into half, and the place where the "E" ends marked through with the point of the dividers. When the paper is opened out the point marked will show where the "S" should start. The "S" is placed down, and then the remaining letters "E" and "S," so completing the first line. Should a correct estimation have not been made, it will not be found difficult to erase the candle black with a rubber. By completing one half of a line first, and marking through where that half ends, one is certain of getting an equal margin on either side, and one is also enabled to letter the whole forward, which is much easier than lettering backward, as a complete view is obtained of the letter that has previously been placed down. Some experience of the letters is necessary to correctly estimate the centre of a line, but when there is any doubt it will be better to first lightly mark the letters without blackening them. It will be noticed that a cut is marked on the shaft of each letter to denote the top of the letter. If much lettering has to be done at one time it will be advisable to arrange the tools alphabetically on a board, and a mark made on the handles of the vowels will be of assistance in finding the letters. Considerable practice is required before the letters can be placed upright. Letters with square tops will be found the least difficult. Great care must be taken to place each letter exactly up to the line, for the slightest deviation from this will be very apparent. Our next line, "AND," is not difficult, the "N" being placed in the centre. With "LILIES" we have an "I" on either side, so no allowance need be made for them. In "BY JOHN"

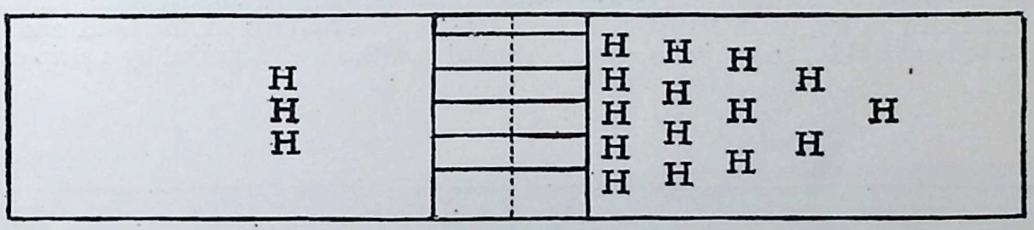


Fig. 88.

we have to allow a space between "BY" and "JOHN," which should be reckoned as a letter, so the "J" will be placed in the centre. If it is necessary a little less than a letter may be allowed for a space. With "RUSKIN" we have an "I" on one side, so to allow for this the "S" will be placed touching the centre line. When a "J" appears in a lettering, care must be taken to see that there is sufficient room between the lines for the tail. With figures, unless they are all of the same height, they are placed down as in Fig. 89. Two lines can be marked, and the 1, 2, and 0 placed between the lines, the 3, 4, 5, 7, and 9 placed up to the top line, and the 6 and 8 placed on the lower line. When the pattern for the lettering has been made out, the letters must be cleaned by rubbing on a piece of leather, and placed on the finishing stove.

XX.—Tooling the Back.

To blind in the lettering on the back the book is placed in the finishing press, with the paper held in position between a pair of cutting boards (Fig. 90). A pair of boards, covered on the one side with leather, should be kept for this purpose. When the paper is removed the lettering should be again blinded in, for, with lettering, it is very essential to have a clear, sharp impression.

book lengthways in front of the worker, and all the lines against the right-hand side of the bands put in first; then the book should be reversed, and the other lines tooled in the same way. This is best because, when putting a line against the band, a full view of the band is obtained. The lines should be put in close against the band, and with a long

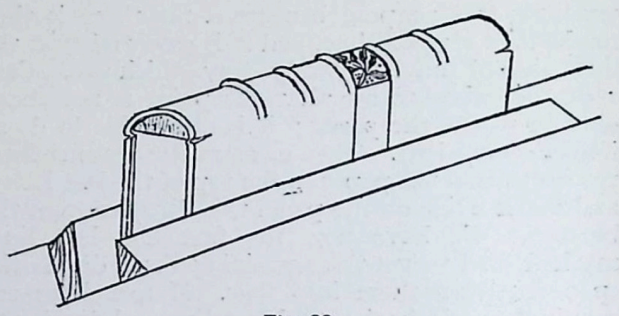


Fig. 90.

piece of line, for if a short piece is used there is a danger of it slipping off the back. Although the line used may be much longer than the line that is required, it will not be found difficult, when approaching the corner, to lift it up and finish with the end of the piece. The lines at the head and tail are marked in with a folder, guided by a strip of vellum

Fig. 91

In Fig. 91 we give the pattern that we intend putting in the remaining panels; this should now be blinded in. It will be noticed in Fig. 85 that the pattern is going from right to left and from left to right in each panel alternately. To do this it is not necessary to make out two patterns; the first, third, and top panel can be blinded in, and then for the remaining two the pattern can be impressed through the reverse side of the paper.

It will be noticed that the extra length of the tail panel has been utilised to place the date of publication in. A pattern can be made out for this if necessary, but it will not be found difficult to blind in the figures direct on to the leather if the centre of the panel is marked.

The lines on the side of the panel can be marked in through the paper with a piece of line, but not the lines against the bands. When doing these lines the press should be turned round so as to bring the

cut with a straight-edge, and stretched over the back with the left hand, and are then blinded in with the tool.

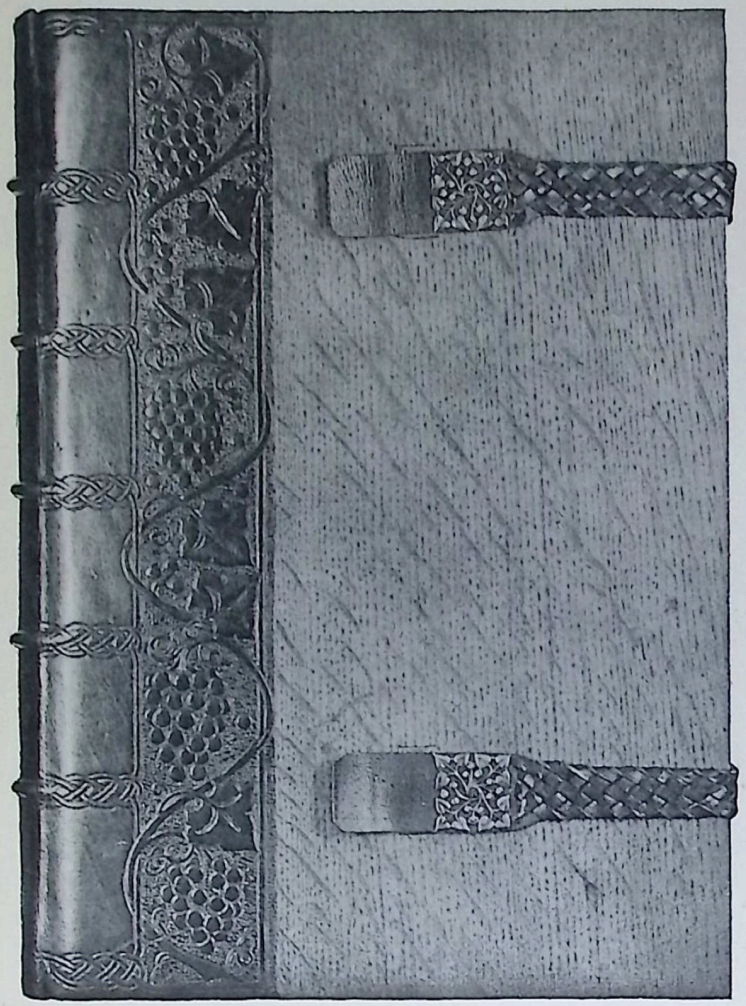
When tooling the back the book must always be held in the finishing press, and it is better to have the book between the leather-lined cutting boards, for they protect the sides from being marked and also enable a greater pressure to be obtained, the back, in consequence, presenting a firmer surface for tooling.

When the pattern and lettering have been blinded in, the back can be washed, glaired, and gold-tooled.

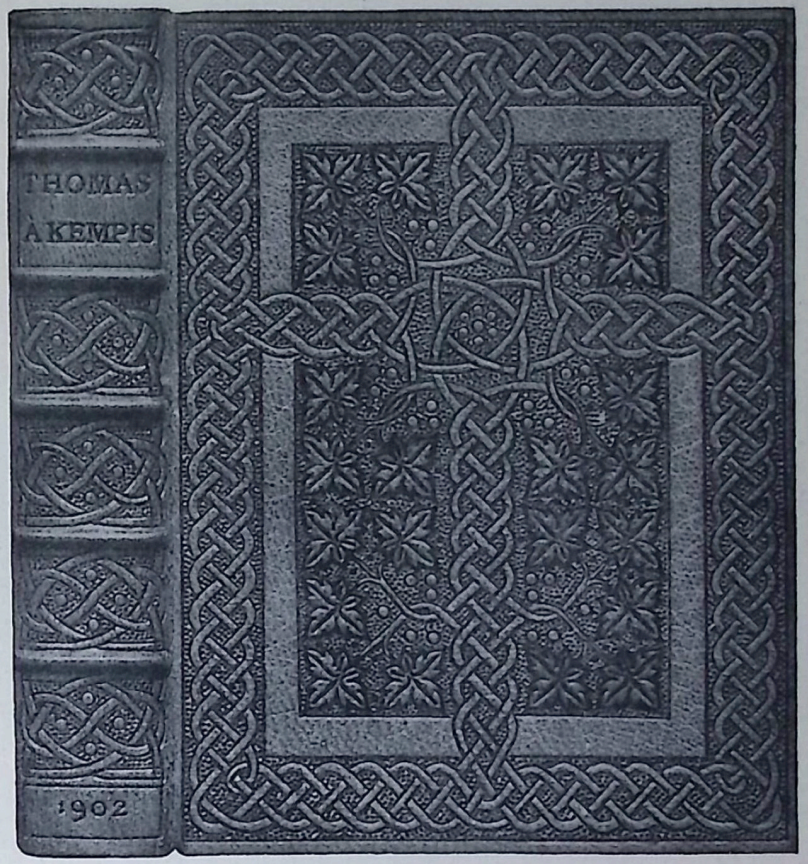
If the back is very round there is a danger of the tools slipping off when being "struck." They must be put down at such an angle that they come flat on the surface. The press can be turned round until the book is in a convenient position for using the tool that is to be "struck."

(*To be continued.*)

BINDINGS BY F· SANGORSKI AND G· SUTCLIFFE



SIZE 15¼ IN. × 11 IN.



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"DRAWINGS OF A. VON MENZEL."

By Prof. H. W. Singer.

THE new volume of this excellent "Modern Master Draughtsmen" series is one of the most interesting that has been issued up to now; chiefly because, hitherto, Von Menzel has been hardly more than a name in this country, and there have been few opportunities of seeing even reproductions of this master's work. But this beautifully printed volume gives fifty tinted and half-tone examples of his marvellous drawings, selected from portfolios that were found in the artist's studio after his death. There were twenty-nine of these portfolios, containing over four thousand drawings, covering all periods of his life, and the selection is a representative one; as representative, perhaps, as fifty drawings can be made to be out of a total of several thousands. With the exception of one—a wonderful title-page for an album—they are all reproduced for the first time.

Though, of course, the illustrations are the chief attraction of this book, the writer of the few pages of text, Professor H. W. Singer, deserves great praise for the very interesting account of Menzel's life, of which he gives us a complete insight in the eleven pages at his disposal.

Menzel was born in Breslau in 1815, and worked at an early age in the lithographic business of his father. When he was fourteen his father sold the business and moved to Berlin. Here he again worked at lithography, assisted by his son, but two years later the father died, and at the age of sixteen the artist was thrown entirely on his own resources. For the sake of a living he executed vignettes for tradesmen's bills, letter headings, designs for stencils, bottle labels, and similar hack work, and a long period of privation and plodding began for him.

What he did at that time, says Professor Singer, gave indication of what there was in the man. For where another would simply have satisfied the crude demands of the trade, he strove conscientiously to do his best, and to give his customers more than their money's worth.

Menzel's first good commission was an offer to do a set of lithographs illustrating the life of Luther. He was then eighteen, and the drawings received much attention. This juvenile effort displayed the same spirit as the work upon which Menzel's fame in later days principally rested. Whether he illustrated his own or another's story, he embodies in various ways his own philosophical comments upon the situation depicted. Sometimes it accompanies the illustration; at others it is encased, as it were, within the illustration itself. Menzel now attended the Academy Schools for a short time, and his reputation soon spread, for he received many orders for lithographic work, while, in addition, he taught himself the technique of oil-painting. The year 1839 represents a turning-point in his career. A publisher in Leipsic decided in that year to issue a volume dealing with the life of Frederick the Great, and Menzel was given the commission for the illustrations, and thus he began the study and pursuit of the one great subject which was to occupy his thoughts throughout the greater half of his career.

He hunted up all the portraits he could lay hands on, and studied the uniforms, arms, costumes and decorations of those days. Finally, he drew all the historic localities, the rooms, houses, palaces, the furniture and articles of use of the period. There are hundreds and hundreds of sketches of this kind, showing a complete knowledge of every detail pertaining to the times of Frederick.

A MAN DRAWING A CART
BY ADOLPH VON MENZEL

The two books—Krugler's and the *édition de luxe* of Frederick II.'s own writings—contained nearly six hundred illustrations by Menzel. The latter were far superior, and this set of woodcuts represents, perhaps, the firmest pillar upon which the artist's fame will rest. From the standpoint of pure draughtsmanship these designs have never been surpassed. Several other publications followed these works, chief of which was "The Army of Frederick the Great," containing no less than 436 pen-lithographs. Only thirty copies of this volume are in existence, and it is one of the most perfect solutions of an iconographic task that we possess. Menzel depicts the uniforms, weapons, accoutrements of almost every regiment, describing all the variations in buttons and trimmings of the privates as well as of the officers. He carefully illuminated one copy himself; the other 29 were done from this by another hand. During the longer half of his life, black-and-white art was looked upon as an inferior art, and by the time that this had ceased to be the case Menzel had virtually given up this branch of the fine arts, and had turned his attention to painting.

His first essays as a painter of Frederick the Great were coldly received by the Court, and were hung in out-of-the-way places in the Royal Castle; and a large historical cartoon which he had drawn for the Kunstverein at Cassel was skied in a dark library. These circumstances thoroughly disheartened and disgusted him, and the few historical pictures which he painted afterwards lacked all spirit. When, in the end, other work had made him famous, and the Prussian Court officially recognised his claim as a historical painter by commissioning him to paint the coronation of King William I., his wings had been clipped—as he himself put it, in his early days—and the painting was merely a very large coloured illustration of the event.

One of Menzel's biographers remarks that a casual observer must come to the conclusion that when once his genius was deflected from its original course he was an upholder of every new "movement" as soon as it put in an appearance. He painted plein-air pictures, he did impressionistic work, "realistic" paintings, and even work of the kind that the recent Spanish-Italian school delighted in. It looks, says the author, as if he had intended to show that he was up to any trick that came along; and, as soon as ever he had proved, to his own satisfaction, at least, that he could equal them, he totally lost all interest in the style that was new for the time being.

The number of Menzel's drawings must be immense. At the recent Memorial Exhibition in Berlin there were some five thousand sheets of them.

He was naturally left-handed, but he trained himself to use his right hand too, and could draw equally well with either. It is said that he made the rapid nature sketches with his left, and produced the carefully finished drawings with his right hand. His methods were curiously complete; he even made it a practice to draw back and side views of figures which, in the ultimate painting, were to be seen from the front. Menzel's eyesight and his handicraft seemed, strangely enough, to grow stronger and more capable the older he became. Thus, unlike all other famous artists, his handling did not grow broader and freer with age, but, on the contrary, went more into detail, and he finished off with more care to the end of his days. [London: Geo. Newnes, Ltd., Southampton Street, Strand. Price 7s. 6d. net.]

"ALPHABETS AND NUMERALS."

By A. A. Turbayne.

THERE is no one more qualified than Mr. Turbayne to construct and design a series of alphabets. For many years past we have been indebted to him for the best of the book covers issued by various publishers, and he has been in the front rank of those who have urged that greater attention should be paid to the subject of lettering. And at last it seems that these efforts are bearing fruit. A vast improvement is everywhere observable in posters, showcards, book covers, and even in the selection of type of advertisements and books of every kind; and in our art schools the subject of lettering and writing is receiving much attention.

In issuing these plates for publication Mr. Turbayne had in mind the need he felt for such a series of examples when he began the exercise of his profession. The want of good examples of severe readable types induced him to search the early manuscripts and printed books. He soon became fascinated with the subject, and came to feel a decided preference for the simpler forms in letters, in manuscripts those with the least flourish.

In this series Mr. Turbayne gives alphabets of fairly simple form. These plates have not been designed as models for printing types, but as examples for the designer or craftsman to copy, alter, and arrange in their handicraft after their own fancy. "My letters," says the author, "will again assume a variety of new forms in the course of interpretation, for I believe that no two hands will copy a letter exactly, for lettering is as subtle in its likeness as the human face. The drawing of letters, too, is like the drawing of the human face; there is a very short step between the likeness and caricature."

Most of the lettering we find in the ornament of to-day is a caricature of some well-known form. Mr. Turbayne does not hold with the old style in the drawing of the Arabic figures, such as the short 1, 2, and 0, the ascending 6 and 8, and the descending 3, 4, 5, 7, and 9. These, he considers, may look in place with the lower-case letters, but in the midst of capitals they disfigure the piece of work.

In the alphabets given, the numerals have been made to line with the capitals. With decorative work capitals are more generally used; if the designer prefers, in a case where the small letters are to be used, to employ the old style figures,

OLD LADY IN A HIGH-BACKED CHAIR

BY ADOLPH VON MENZEL

the alteration of Mr. Turbayne's models is a trifling matter. In designing the Ampersand (&) both the E and T are clearly conveyed.

The two examples which we have taken from Mr. Turbayne's book are part of a condensed Gothic alphabet, with curved serifs, pointed and bracketed. The letters have been compressed slightly to allow a more compact working, and to make the letter more legible for modern use several forms have been introduced approaching Roman. In designing this alphabet Mr. Turbayne remarks that he was influenced strongly by certain small points in the letters of a Roman alphabet (illustrated in the book) founded on the letters of the inscription of Trajan's Column, Rome, though there may appear to many little resemblance in the two forms

GOTHIC ALPHABET BY A. A. TURBAYNE.

(From "ALPHABETS AND NUMERALS." By courtesy of Messrs. T. C. & E. C. JACK.)

of letter. This influence was further felt when working on the small letters, with the result that many are reduced almost to Roman.

The designer of to-day must sacrifice many fine old forms of letter for the sake of legibility. This applies specially to commercial work of every sort. For this reason a choice of forms of several of the letters is given; if one does not suit, the other probably will. The use of two forms of the same letter in one piece of work should, in most cases, be avoided.

This book should certainly be in the library of every art school, or, better still, the plates should be placed on the walls so that the student might constantly have these excellent examples before him. We know of no book of lettering we can so safely recommend. [London and Edinburgh: T. C. & E. C. Jack. Price 10s. 6d.]

GOTHIC ALPHABET BY A. A. TURBAYNE.

(From "ALPHABETS AND NUMERALS." By courtesy of Messrs. T. C. & E. C. JACK.)

"POINT AND PILLOW LACE."

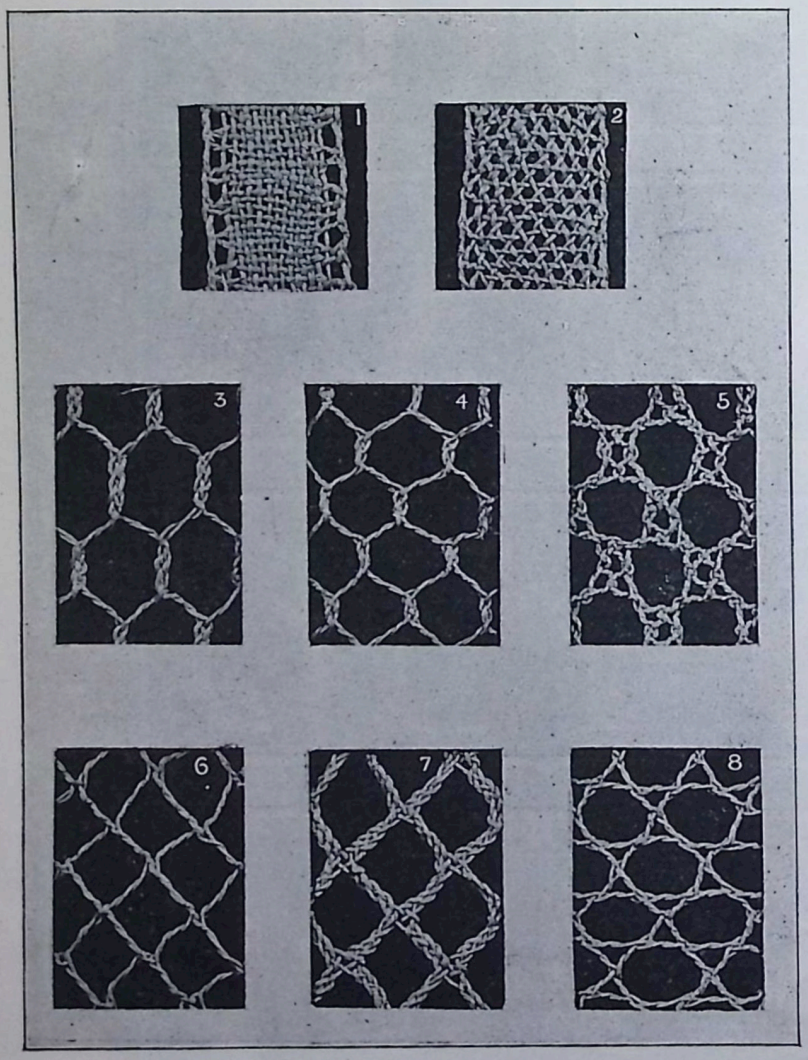
By Mary Sharp.

THIS excellent little book well fulfils its object, which is to supply to owners and lovers of lace some clear information easily referred to by means of which they can ascertain the true name and nature of any particular specimen. It does more, for the lace worker will find it a mine of information concerning the stitches and design of the various styles of lace, and the book contains over fifty pages of clearly printed illustrations of lace of varying periods and details of stitches.

One difficulty of the study of lace is, that at times the same kinds of lace were made in different localities, each imitating the other. Thus Brussels and Alençon copied Venice, and Italy in turn adopted the "réseau" ground in imitation of Flanders.

The author gives a very clear description of the methods of distinguishing needle-point from pillow lace. She says that both the toilé or solid part of the pattern and also the grounding, whether of "brides" or of network, should be closely examined.

In needle-point lace the solid parts are always made of rows of looped, or so-called button-hole, stitches, sometimes quite closely worked, sometimes looser, or with small open spaces left in patterns; still the stitch is always the same.



DETAILS OF PILLOW LACE

(MAGNIFIED).

1.—Toilé of Pillow Lace.
2.—Open Toilé of Brussels Pillow Lace.
3.—Réseau of Brussels Pillow Lace.
4.—Réseau of Mechlin.
5.—Réseau called "Cinq Trous."
6.—Réseau of Lille.
7.—Réseau of Valenciennes.
8.—Réseau called "Fond Chant" or "Point de Paris."

(From "Point and Pillow Lace," by Mary Sharp. By courtesy of Mr. John Murray.)

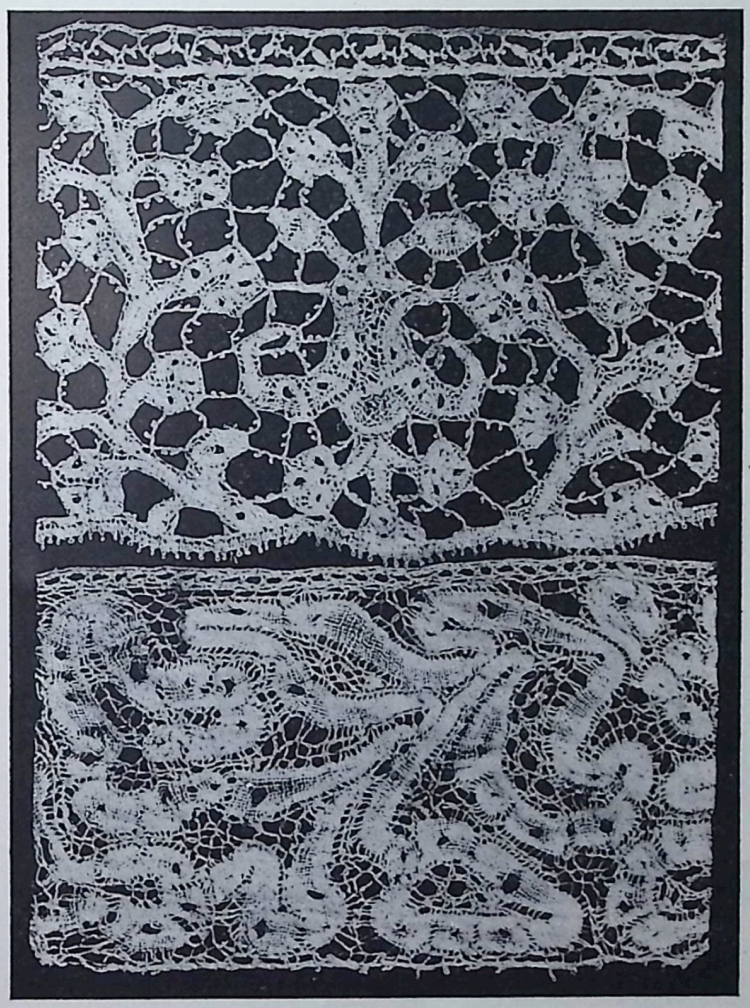
The "brides" in needle-point consist of one or two threads fastened across from one part of the pattern to another, and then closely whipped or buttonholed over; they are usually more or less decorated with "picots" made much in the same manner as the "bride" itself. Needle-point is also sometimes grounded with network, but when examined this will be found to be made up with the same stitch. The meshes of the network are merely loose looped stitches; sometimes the needle is twisted a second time in each stitch to keep the mesh open; some-

times the work is strengthened with a second thread, which is whipped over all along the row at the base of the meshes.

Thus it will be seen that though other stitches were employed in the earlier linen lace work, such as drawn-work, cut-work and reticella, yet for true needle-point lace one stitch alone sufficed, namely, the looped or button-hole stitch (in Italian, "Punto a festone").

to be made of button-hole stitch. The "réseau" work of pillow lace is much more varied than that of needle-point. The specimens given in the illustration (which we reproduce by the permission of the publishers in this number) by no means exhaust all the varieties, though the peculiar "réseaux" of the best known laces are given.

In all pillow lace the network is made by twisting and plaiting the threads, sometimes in twos and



2

1

FLEMISH PILLOW LACE

(TWO SPECIMENS).

(From "POINT AND PILLOW LACE," by MARY SHARP. By courtesy of Mr. JOHN MURRAY.)

Pillow lace will be found to be constructed in a fundamentally different manner. The "toilé" is composed of threads crossing each other more or less at right angles and in and out like the texture of cambric. This is shown in Fig. 1 in illustration on opposite page.

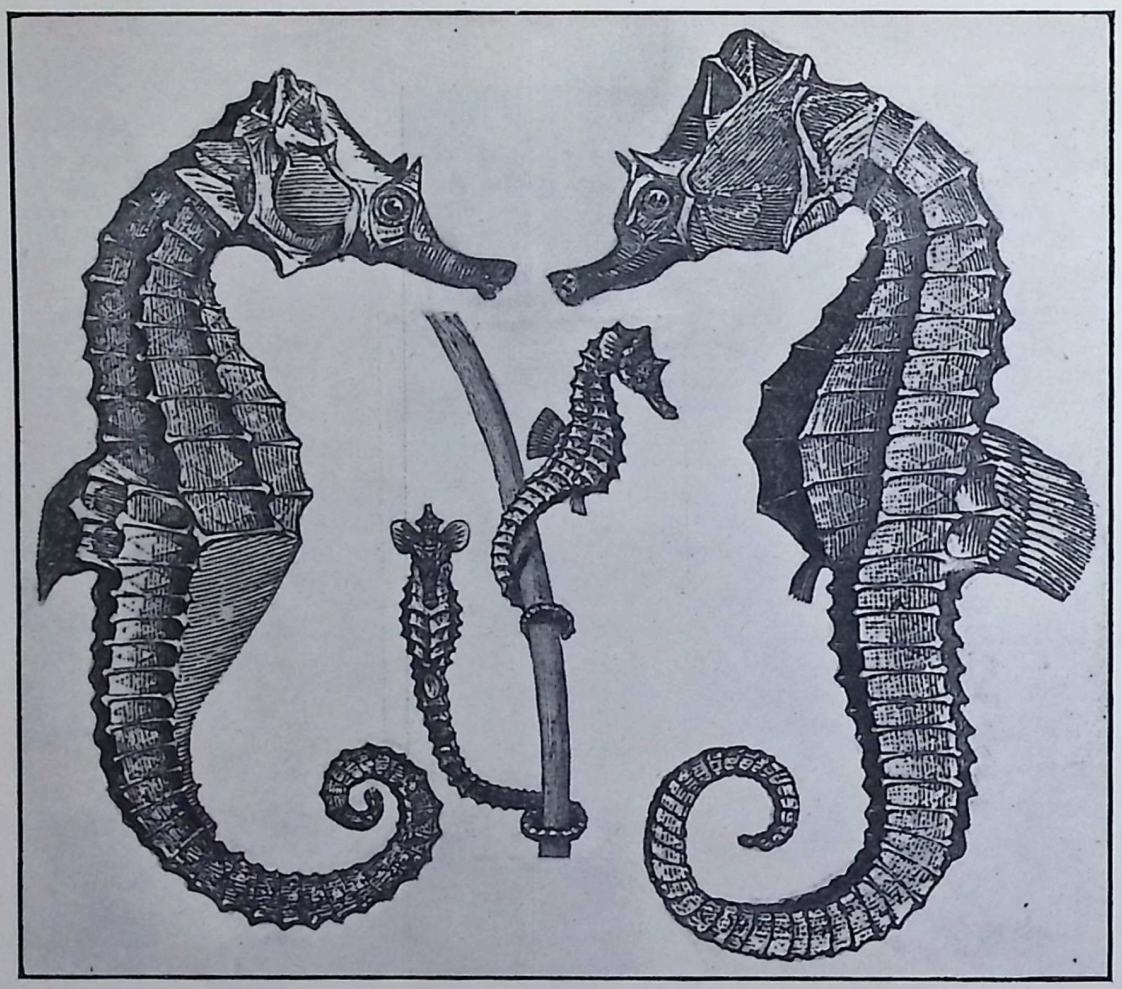
The "brides" when made on the pillow consist of twisted or plaited threads, and the "picots" of simple loops; but "brides" worked with the needle are often added to pillow lace, which is then called "mixed lace," and in that case they will be seen

sometimes in fours, as the case may be. Thus, roughly speaking, the broad difference between point and pillow lace is that the first is worked throughout with looped stitches and the second is made with twisted or plaited threads.

The book concludes with an admirable summary in which the chief points of the foregoing chapters are generally summed up in a few simple statements, and a well-arranged index is likewise included. [London: John Murray, 50A, Albemarle Street, W. Price 5s. net.]

"FISHES, CRUSTACEANS, &c."

ANOTHER of the useful portfolios issued by the Arts Company has just appeared bearing the above title. These portfolios are designed to illustrate "Nature Study," and to supply forms and designs for craftsmen, and could well be adapted as examples for school teaching.



MALE (LIFE SIZE). FEMALE (LIFE SIZE).

THE SHORT-NOSED HIPPOCAMPUS, OR SEA HORSE.

(From "FISHES, CRUSTACEANS, &c." By courtesy of THE ARTS CO.)

The present one contains nearly forty drawings of salt and fresh-water fishes, carefully selected with a view to their decorative forms. The plates are beautifully printed, and the drawings are executed in a remarkably clear style, which enables one to study the extraordinary construction of some of the lesser known inhabitants of the ocean.

Useful notes are included on the skeletons of fishes, and a useful list is given of the colouring of the various species mentioned in this work. [The Arts Company, The Ateliers, Derby. Price, 3s. 6d. net.]

"WRITER'S AND ARTIST'S YEAR-BOOK."

IN its old form, this book appeared as "The Writer's Year-Book"; but this year it has been completely rewritten, and will prove very serviceable to the ever-increasing host of illustrators. The difficulty of knowing where to place drawings is one that confronts, not only the tyro, but even the artist with considerable experience; and in this book is given a complete list of papers and magazines, indicating the requirements of the various editors. In addition to this there is a list of book publishers, and also of those art publishers who are willing to take designs, posters, and cards of various sorts. [London: A. & C. Black, Soho Square. Price, 1s. net.]

WE owe an apology for the statement contained in the article on Walter Crane in our December number, in which we stated that the Socialist paper "Justice" was defunct. We gladly correct our error, for we understand that it is still being published.

Board of Education Report

FOR ENGLAND AND WALES.

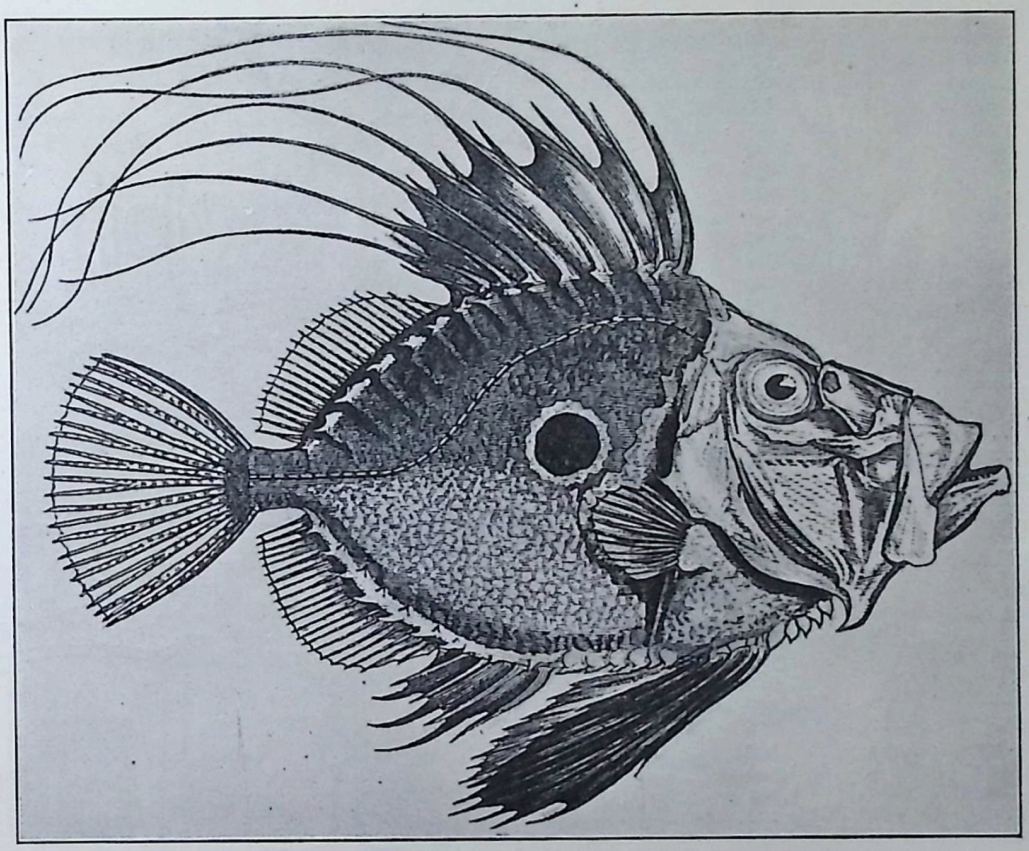
THE Report of the Board of Education for 1904–05 is to hand, and contains much interesting information concerning Art education. Art examinations were held in the day at 350 centres and in the evening at 975. The number of papers worked decreased from 89,992 in 1903 to 88,527 in 1904, accounted for by the decrease in the number of papers in freehand drawing in outline, one of the junior examinations formerly taken by a large number of day scholars.

An examination in the drawing of common objects from memory was held for the first time in 1904; 461 passed, of whom 201 were placed in the first class.

For the purpose of qualifying students for the Art Teachers' or the Art Masters' Cercificate, or the National Competition, the number of works sent up was 25,854 from 270 schools of art, and 5,473 from 369 evening and day art classes. For the National Competition 6,460 works were selected from the total number submitted, and the Examiners awarded 9 gold medals, 52 silver medals, 163 bronze medals, and 386 book prizes.

During the year there were issued 821 Group Certificates in Art. These comprised 663 Elementary Drawing Certificates, 114 Art Class Teachers' Certificates, and 31 Art Masters' Certificates, Group I.; 7 Art Masters' Certificates of the second group; 2 third group certificates, and 4 fourth group certificates. On the results of the Art examinations there were awarded 10 Royal Scholarships, 6 National Scholarships, and 16 Free Studentships tenable at the Royal College of Art. Each Royal Exhibition and each National Scholarship carries an allowance of about £50 per annum. In the Royal College of Art there were 26 students in training, who had been selected for instruction with a view to preparation for their future work as teachers. Each of these received a maintenance allowance of about £50 per annum, increased to about £60 in the case of those assisting in teaching. Twenty-three Local Scholarships of £20 per annum, tenable for three years at any art school under the Board which gives free admission to the scholar, were awarded, and 422 Local Free Scholarships, consisting of a grant of £3 to the managers of an art school under the Board in lieu of the annual fees otherwise payable by the student.

The total number of Schools of Art and Branch Schools of Art receiving grants was 230. The amount of the grant was £55,481, and there were 52,634 students, of whom 29,300 were females. Of



THE JOHN DORY (QUARTER LIFE SIZE).

(From "FISHES, CRUSTACEANS, &c." By courtesy of THE ARTS CO.)

these 20,774 took the Board's examinations in art. Students attending day classes amounted to 17,567; evening classes, 29,959; and day and evening classes, 5,108.

The total number of day art classes receiving grants was 98, the students numbering 3,841.

The following list, which we have compiled from Statistics of Public Education, gives the numbers of students attending schools and classes in each county:—

	Schools of Art.	Day Art Classes.
Berkshire	446	58
Buckinghamshire	199	10
Cambridge	61	3
Cheshire	1,580	63
Cornwall	605	109
Cumberland	193	—
Derbyshire	502	6
Devonshire	2,127	23
Dorsetshire	458	35
Durham	983	47
Essex	1,050	38
Gloucestershire	1,652	31
Hampshire	924	250
Herefordshire	205	—
Hertfordshire	473	60
Kent	1,573	102
Lancashire	8,661	—
Leicester	1,879	81
Lincolnshire	432	319
London	3,933	54
Middlesex	707	178
Norfolk	688	43
Northamptonshire	344	33
Northumberland	694	—
Nottinghamshire	969	—
Oxfordshire	242	34
Shropshire	572	80
Somersetshire	876	88
Staffordshire	3,343	34
Suffolk	431	159
Surrey	983	26
Sussex	920	185
Warwickshire	4,286	138
Westmorland	78	38
Wiltshire	569	22
Worcestershire	1,526	34
Yorkshire	5,724	1,330
Carmarthenshire	108	—
Denbighshire	75	—
Flintshire	—	54
Glamorganshire	774	—
Monmouthshire	260	—
Pembrokeshire	—	46

It will be noticed that Lancashire easily heads the list. The school having the largest number of students is The Newarke, Leicester; the total number being 1,740, and receiving a grant of £1,096. The Birmingham Municipal School received the largest grant, namely, £1,905, though the students only number 1,365. Manchester Municipal School comes next with £1,749, and 1,514 students.

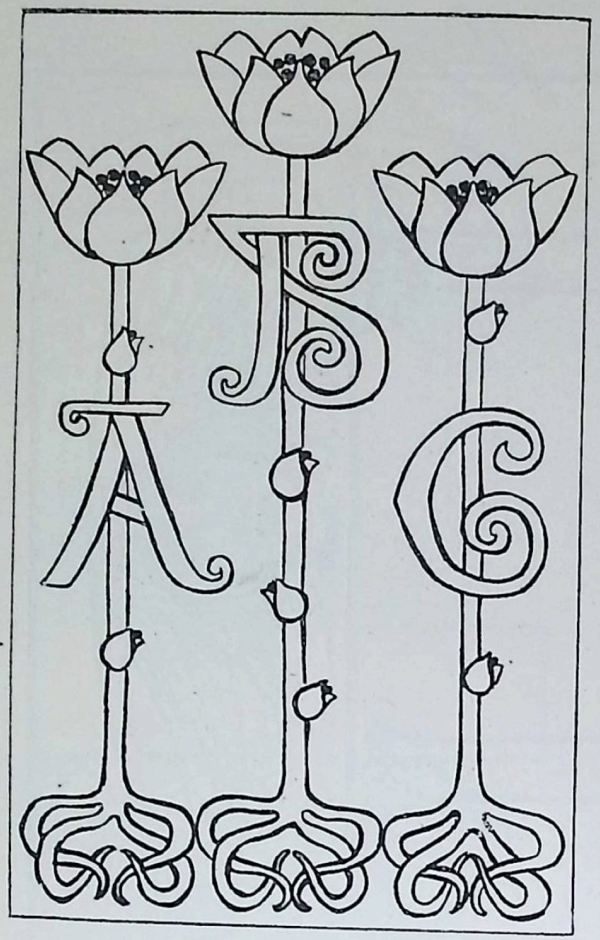
The above figures do not include the evening schools, for separate figures are not given of the art students.

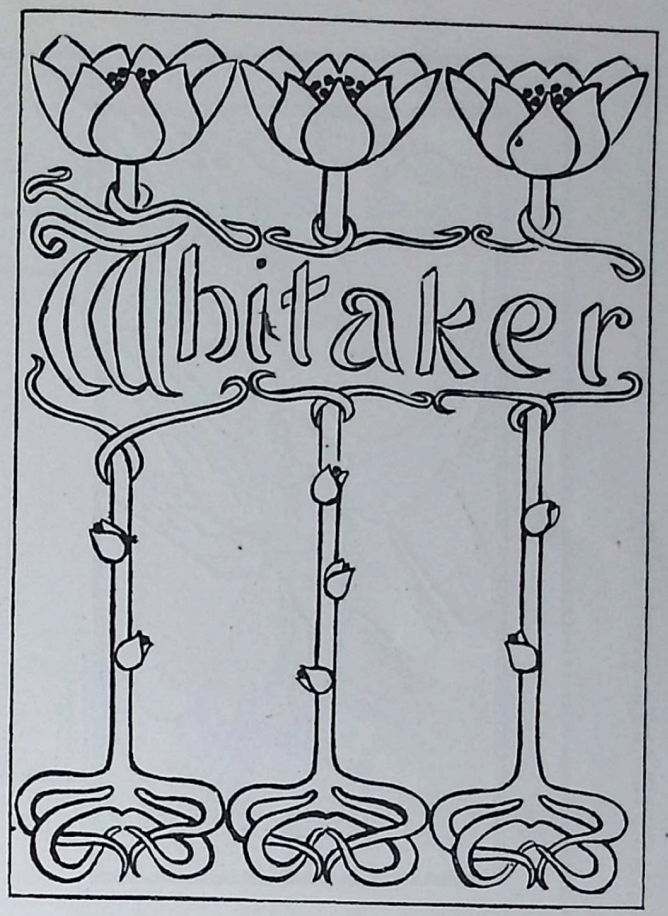
The number of evening schools receiving grants for instruction in the following subjects are:—Elementary drawing, 2,095; art, 778; woodwork, 1,381; metalwork, 150; leatherwork, 3; carpentry and joinery, 77; cabinet making, 4; pottery and porcelain work, 5; bookbinding, 1; lithography, 1; enamelling, 1; art needlework and embroidery, 39.

Among the more important acquisitions to the Victoria and Albert Museum for the year were two marble half-length figures of angels from the dismantled tombs of Bartolommeo Aragazzi, by Michelozzo Michelozzi (completed in 1438); a velvet cope with appliqué work and embroidery, German work of the early years of the sixteenth century; a woollen pile carpet dated 1603; a small cabinet with figure designs in marquetry, German (Augsburg) work of the late sixteenth century; six panels painted with profile busts in tempera, from the Castle of San Martino, attributed to Bartolommeo Suatdi, called Bramantino; a collection of Italian majolica drug vases and jugs of the fourteenth, fifteenth and early sixteenth centuries; a jug of Turkish pottery with Dutch mounts of silver gilt of the sixteenth century; a collection of one gold and eight silver medals by Thomas and Abraham Simon, and four engraved silver medallions by Simon van de Pass.

OUR PRIZE COMPETITION.—NO. 9.
DESIGN FOR EMBROIDERED COVER FOR "TELEPHONE DIRECTORY."
FIRST PRIZE, awarded to "M. A. F." (Miss M. A. FIELD).

OUR PRIZE COMPETITION.—No. 9.





DESIGNS FOR EMBROIDERED COVERS FOR "A B C" AND "WHITAKER."

FIRST PRIZE (Bronze Medal) awarded to "M. A. F." (Miss M. A. FIELD).

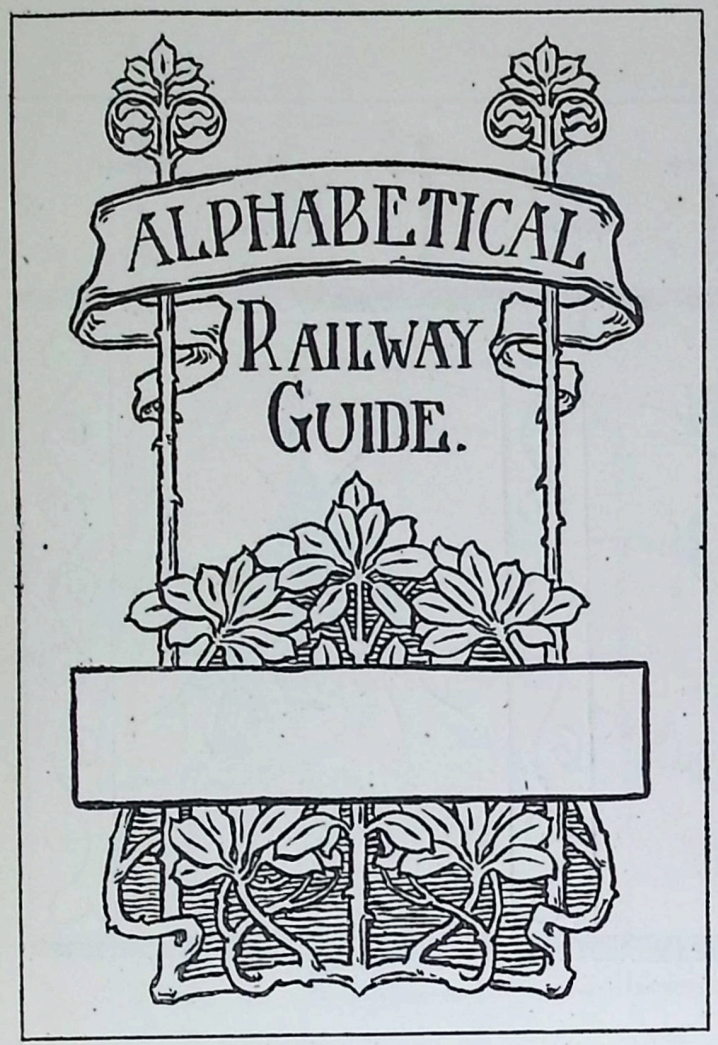
OUR PRIZE COMPETITION.—No. 9.

DESIGN FOR COVER OF "TELEPHONE DIRECTORY."

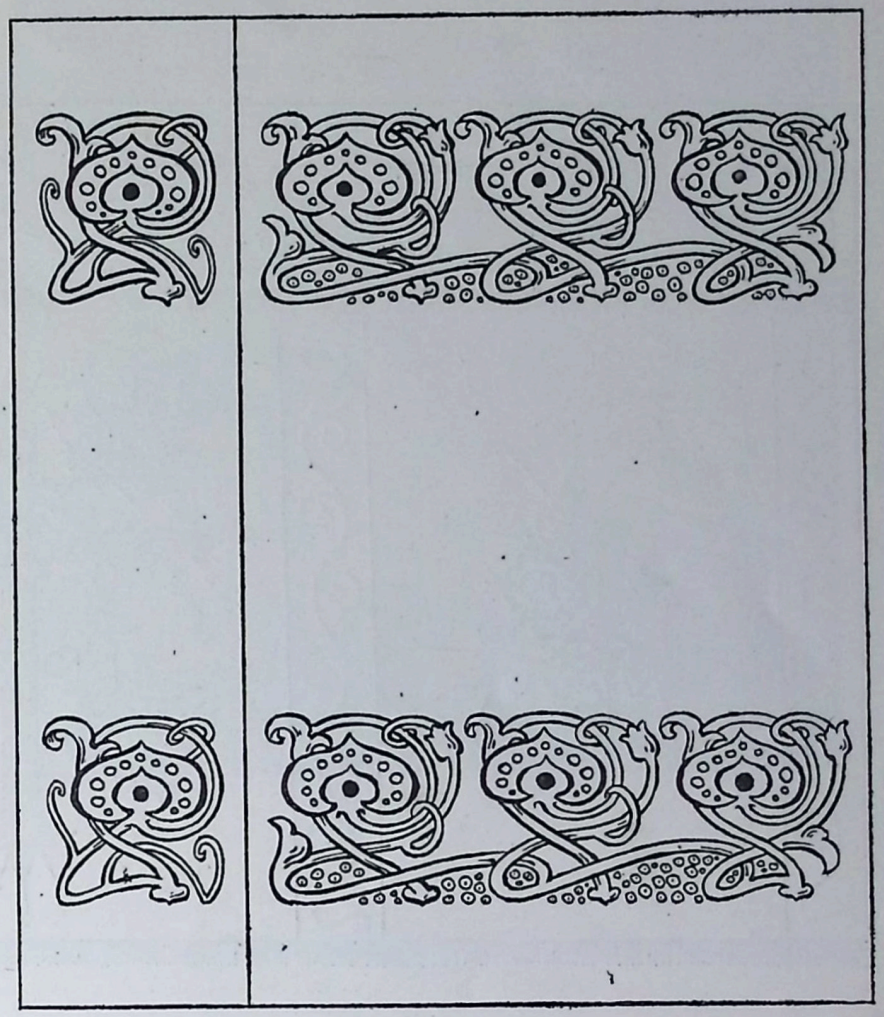
(PART OF A SET.)

THIRD PRIZE (One Guinea), awarded to "B." (ERNEST COPESTICK).

OUR PRIZE COMPETITION.—No. 9.



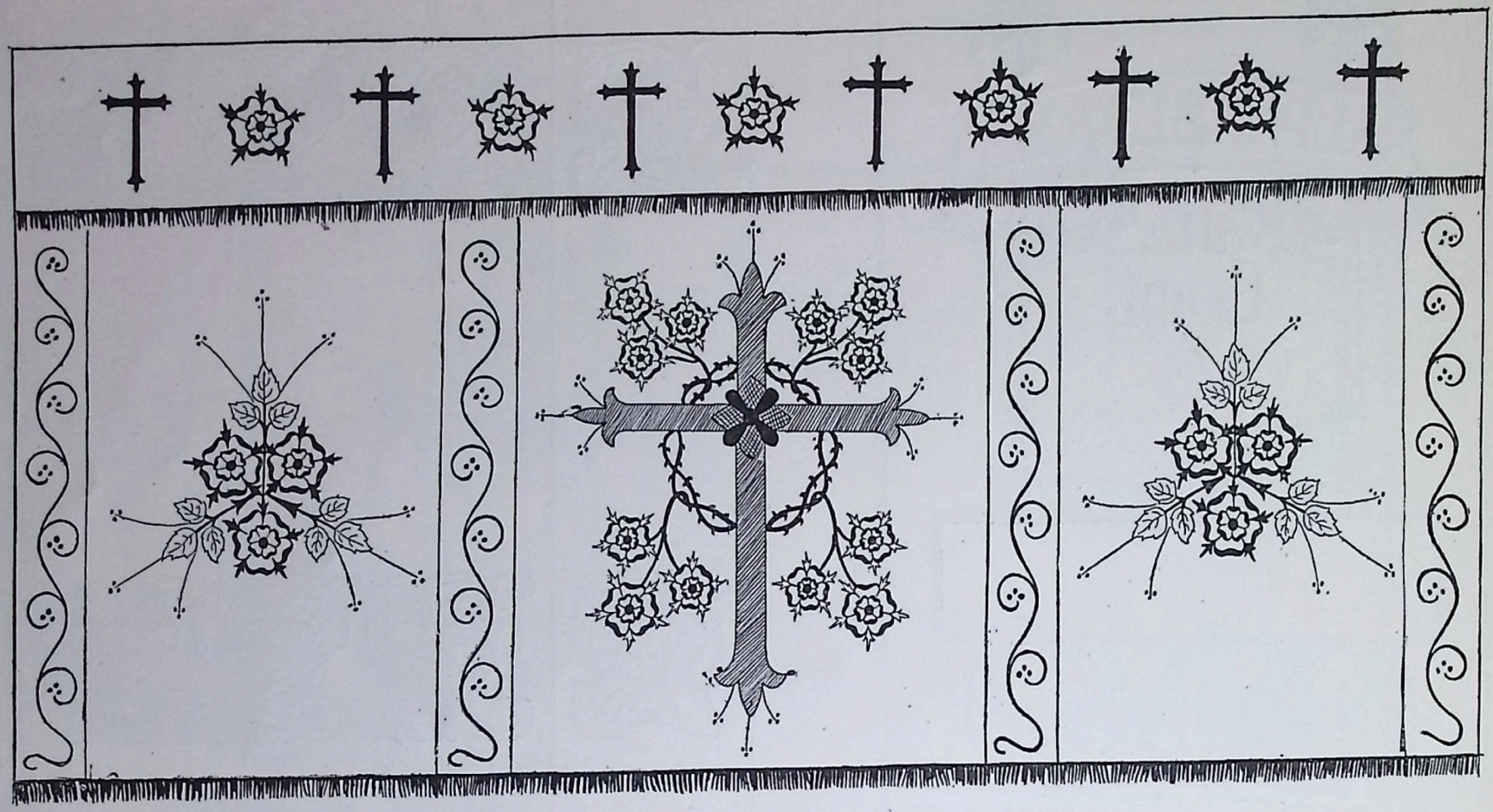
DESIGN FOR COVER OF "A B C GUIDE."



DESIGN FOR COVER OF "WHO'S WHO" OR "WHITAKER."

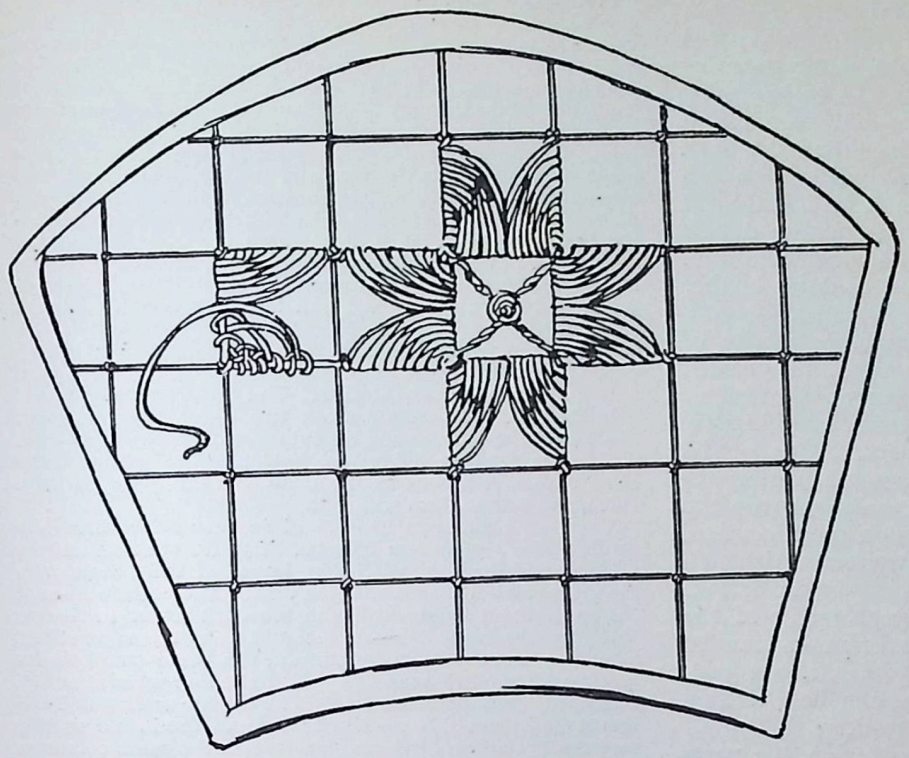
THIRD PRIZE (One Guinea), awarded to "B." (ERNEST COPESTICK).

OUR PRIZE COMPETITION.—No. 8.

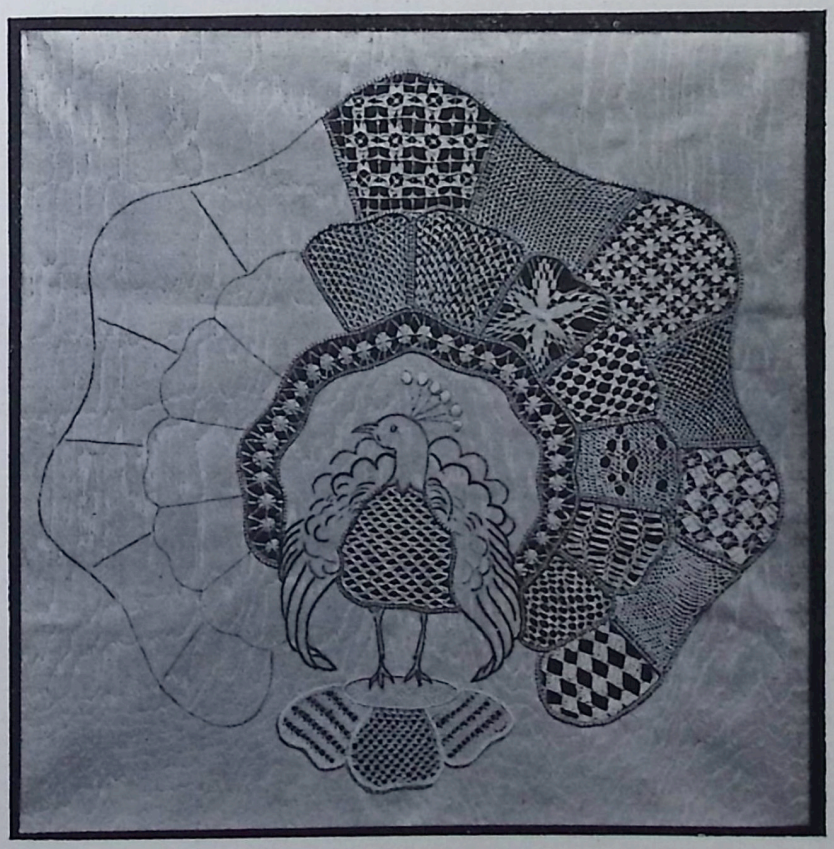


DESIGN FOR ALTAR FRONTAL (PART OF A SET) BY "MAY BLOB" (G. MAY SHEPHERD).

AWARDED FIRST PRIZE (BRONZE MEDAL).



Drawing showing Details of the "Marguerite" Stitch in Punto Tagliato Embroidery



Cushion Cover worked in Punto Tagliato Embroidery on "Antique White" Moiré Silk
(See page 158)

THE NEW LACE EMBROIDERY.

(PUNTO TAGLIATO.)

THIS unique embroidery, which was first introduced by Miss Tebbs, after years of labour and thought, seems to be becoming very popular, and we would recommend anyone thinking of taking it up to obtain the book which Miss Louisa A. Tebbs has written on the subject. (Published by Chapman & Hall, Ltd.) It costs only half-a-crown, and gives minute details of the methods of working. The second edition, which has recently been called for, contains further illustrations, and the text has been revised.

Punto Tagliato possesses distinctive merits of its own. The daintiness of the work, its decided individuality, together with the beauty of the designs and utter absence of any tawdriness, or vulgarity, all combine to make it attractive. One of its greatest charms lies in the immense variety of stitches it contains, which not only relieves the work of all monotony, both in design and execution, but offers unlimited scope to the worker. Although not in the least resembling drawn thread or lace work, or even embroidery, a great many of the stitches used in all these three branches can be adapted to Punto Tagliato (altogether, about 300), whilst from these as many more can be invented and arranged by the imaginative worker.

As will be seen from the illustration, the parts between the design are filled in with fancy stitches, the material afterwards cut away from the back of these stitches, leaving an open network of beautiful lace-like effect on a solid foundation.

The stitchery is invariably carried out in a rather coarse floss silk; but the background varies according to the purpose for which the article is required, and can be of linen, silk, cloth, or even velvet.

OUR PRIZE COMPETITIONS.

Nos. 8 and 9.

WE regret to announce that, owing to the poorness of the designs sent in for these competitions, we are unable to award the full number of prizes offered. Never have we received such a collection of inferior work in any of our previous competitions. For the "Telephone," "ABC," and "Whitaker" covers over fifty sets of designs were sent in, and out of these we were only able to select two. The first prize has been awarded to Miss M. A. Field, Penrhôs, Chislehurst, for the set published on another page, and, although very suitable for embroidered covers, the designs do not show much originality, and could have been greatly improved by a better treatment of the labels. The third prize has been awarded to Ernest Copestick, of 37, Portland Square, Plymouth, for a set of designs which, though showing some originality, are entirely unsuitable for needlework, and are poor in drawing.

In our competition for a set of Hangings for Christmas, we have only been able to award the first prize, which goes to Miss May Shepherd, of 125, Culverly Road, Catford, S.E. In this case the designs are very attractive and eminently suitable, but the drawings have been somewhat carelessly done. As for the remainder which were sent in, they were practically worthless. In some cases we have no doubt the competitors themselves could have worked out something satisfactory from their own designs, but as designs for the guidance of others they were useless.

TREATMENT OF DESIGNS.

No. 193.—Carved Photograph Frame.—There are several methods of preparing the wood for this frame, either using a plain piece, or building it up from strips, using a mitred joint. The former method will require strengthening with battens, otherwise the wood is liable to warp out of truth, so that the best method of construction is a framework with corner joints, either mitred angle-bridle, or mitred lap joint. The mitred angle-bridle joint is very strong, and is made very similarly to the open mortise and tenon, with the exception of both faces, which are mitred. The centre division should be tenoned in top and bottom. In determining the depth of relief, bear in mind the character of the decoration. The ground should not be more than $\frac{1}{8}$ in. deep, and, before commencing to carve, look carefully at the strap-work, and mark all highest and lowest points to prevent mistakes.

No. 197.—This figure would look well worked on a deep cream linen. The over drapery and thick folds worked with a dark shade of brown filoselle. The smaller folds in old gold filo-floss. The dress work in two soft shades of green filo-floss. The ribbons and fastenings on the arms in gold. The hair might be a dull reddish gold, and the leaves in the same shades of greens as the dress. Work them in satin stitch, and outline them with gold.

The face, neck, arms, hands, and feet can be outlined in a medium shade of brown filoselle. The trumpet should be worked with the gold silk. The leaves of the wreath with the greens and the bands with the gold. The outside lines of the panel could be worked with the dark brown in change stitch, and the inside line with the gold, using the same stitch. The festoon outline with green, and the three small circles work in satin stitch with the gold. The line which the feet rest upon work with the gold. The outside scallop and the line at the bottom of it work in brown and the inside scallop in green. The word "Fame" worked in the same colour as the hair, and the inside line round the word work in green and the outside one in gold.

No. 198.—This might be worked on Bolton sheeting in crewel wools, working the whole design solid in long and short stitch. Use warm shades of brown for the squirrel. Work the nuts in a light golden brown, and the leaves round them with greyish greens with a touch of brown. Blend shades of blues and greens for the leaves. The midrib and veins in brown. The stems work in three shades of drabs.

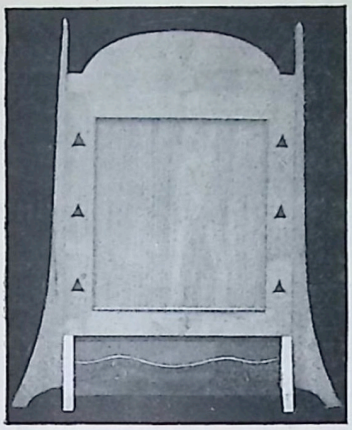
No. 199.—This would look well worked on silk Bolton gauze. The flowers worked solid in shades of pinks (filo-floss). The stem outlined with a brown not too dark. Some of the leaves might be worked solid, and others just outlined or half filled in with three or four shades of apple green.

No. 200.—Work this on white linen with Harris flax thread. The turnover petals of the centre rose work in satin stitch with a bright crimson and the inside of the petal in a paler shade of crimson. Use gold for the centre of the flower, and work the dots in French knots. The sepals work in satin stitch with a dull green. Outline the two back flowers in the dark crimson, and work the sepals the same as the centre rose. The hips should be in satin stitch, using the dark crimson work. The stem in a dark green, and the thorns in the dark crimson. The triangular part at the bottom of the leaves work in satin stitch with the lighter crimson. The other part of the leaves in satin stitch in a medium shade of green.

Cover Designs for "A B C," "Whitaker," and "Telephone Directory."—These designs (pages 152 and 153) are intended to be worked on coarse brown linen, in silks. Satin stitch is to be used, the flowers in shades of orange, or coral reds, also the buds. The stalks should be in green, French knots in centres of flowers and buds in golden brown, the lettering being in the same colour, and an outline of a darker shade of brown round the letters, flowers, stalks, &c. Outline stitch only could be used in either one colour or several, or crewel stitch could be employed.

Repoussé Copper Plaque.—Miss Guggenheim has sent us a short description of the methods used in making her plaque which may be of help to those who contemplate beginning a similar piece of work. The plaque was started with a disc of 10 lb. sheet copper, $\frac{3}{4}$ in. larger in radius than the actual design, to allow for turning over the edge.

The Vyking Screen



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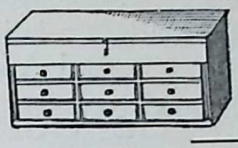

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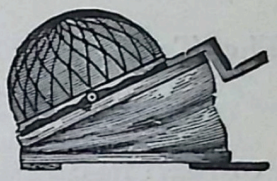

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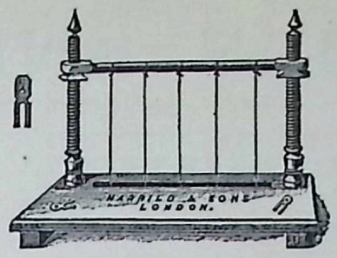

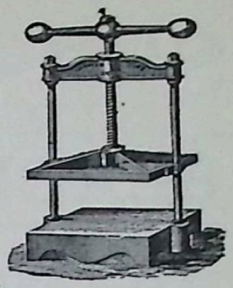

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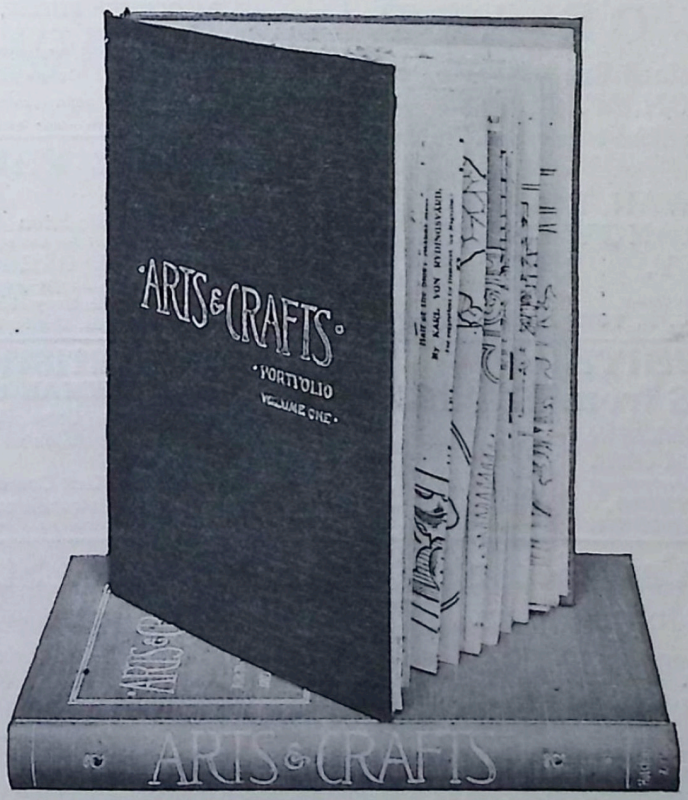

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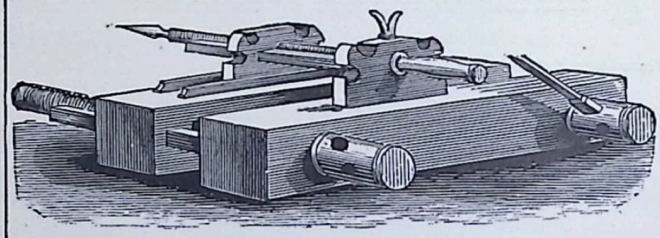

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NORMANDY FISHERWOMEN

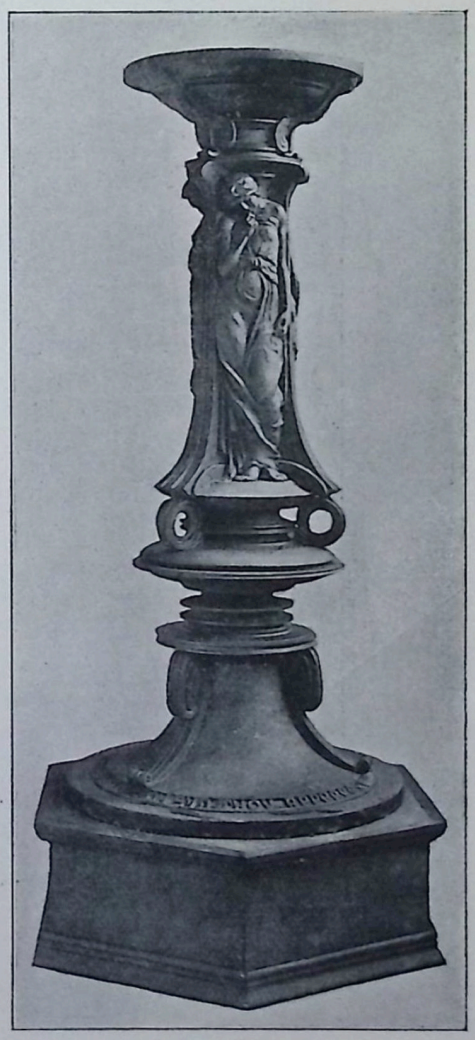
STUDY IN CRAYON

BY FEYEN PERRIN

Society of Women Artists' Exhibition,

HELD AT THE SUFFOLK STREET GALLERIES.

THE Fifty-first Exhibition of the Society of Women Artists, now open at the Galleries in Suffolk Street, contains upwards of 800 exhibits, more than half these being works in oil and water colours. Though there is nothing of much importance, there are many works worthy of attention. Mrs. Jopling contributes a work entitled "Salome," a study rich in colouring and excellent drawing. Miss Winifred Austin is original in her treatment of birds in "Bated with the Rabble's Curse"; the same artist must also be commended for her accurately coloured crayon study of a wolf's head. Other pictures noticeable for sound drawing and good colouring are "By the Shores of Old Romance," by Catherine Ouless; "A Normandy Farm," by Dorothea Sharp; "Princess Badoura," by M. Christine Connell; "Low Tide at St. Andrews," a pretty water colour by Lucy Kemp-Welch. The work of Mrs. Jane Inglis was represented by a study of sea and rocks in the Channel Islands. In the black-and-white section several line drawings of humorous subjects, filled in with flat washes, by Mrs. E. Farmiloe, and others by M. Christine Connell, as well as some studies of architectural subjects by C. M. M. Dale, are worthy of commendation. Some originality was displayed in the posters shown, but the effect in nearly every case was spoilt by bad lettering. We cannot imagine why poster designers should so much neglect this most important part of their art. The miniatures, numbering over 50, included works by Florence E. Bennett, C. Jeannie Reynolds, Mrs. F. H. Barry, and were all worthy of attention. In the handicraft section the most prominent display was that of jewellery and enamels, many well-known workers contributing excellent examples of their skill. In connection with the handicraft exhibits we were astonished at the ridiculously low prices which prevailed, a considerable number of soundly designed and well-executed pieces of work being marked at prices barely covering cost of production, much less leave a margin for any remuneration for the time devoted to the work. This is a most important matter to all craft workers, but, although we have noticed this tendency to low prices in other exhibitions, it has not been so noticeable before. Another important point in connection with the exhibits of jewellery and enamelling is the inability of some enamellers to thoroughly appreciate the proper use of their material. In many cases blues and greens were used in pendants and necklets with an utter disregard of decorative principles. Much otherwise nicely executed work was quite spoilt by a prodigal display of crude colour, giving the work a cheap and tawdry appearance. The work of such well-known jewellery workers as Mrs. Dick and Mrs. Hadaway was quite up to their high standard of excellence, the latter worker exhibiting some pretty effects of transparent enamels on simple silver shapes, such as rounds and shields, for use in necklaces. Some



DESIGN FOR A BRONZE SUNDIAL.
BY FLORENCE H. STEELE.

beautifully coloured enamels by Mesdames Cazalis and Sauvan-Deleuze were marked at extremely low figures. Among other cases of well-designed

and carefully executed jewellery was noticed work by Mrs. Bethune, E. Virtue, R. Drummond, G. W. Evans, M. Hoyer, M. Partridge, and the Misses Goff, the jewellery of Miss E. Virtue being especially noticeable for the excellent use of simple forms of silver wire in necklets, &c., and the excellent enamelling by Miss L. Rimington was particularly commendable for the restrained and artistic way in which the enamels were used as ornamentation. Leather work was strongly represented both in bindings and ornamental work. Among the former was a book cover beautifully embossed by E. Savory. The work of Miss L. G. Wrightson was represented by a magnificent oak-bound book, with undyed leather back, blind tooled; also by the bound volume of Kipling which gained a prize in the ARTS & CRAFTS competition. Another well-tooled binding, No. 596, by the same worker, was not seen to advantage owing to the unpleasant colour of the leather. Miss J. Mahomed contributed a small oak-bound book, beautifully worked, but priced without sufficient regard for the excellent quality of the craftsmanship. Mrs. C. E. Norgate exhibited two samples of embossed and coloured

SILVER CUP BY FLORENCE H. STEELE.

TINTED PENCIL DRAWING BY ALFRED PRAGA.

(Portrait of the Artist's Son.)

leather, splendidly treated from ARTS & CRAFTS' design. The Chiswick Art Workers' Guild was represented by several pieces of leather work, including an embroidered leather box, as well as excellent work in embroidery and metal work; and the delicate work in the cut and embossed frames of Miss H. Virtue were well worthy of notice.

CARVED OAK PANEL.

BY LUCY PADDISON.

The excellent treatment of leather and metalwork by Miss J. H. Park was a feature of this section. We particularly noticed a clever use of green and brown leather in a steel-framed fire screen. An excellent effect was produced by an edge of brown leather bordering a pierced panel of green leather left in the rough, the whole effect being most striking. Miss Park contributed other examples of her skill in treating leather with metal ornamentation, all of them showing originality of treatment. An example of unsuitable decoration for leather was noticed in the suède blotter by Miss A. Kilgour. The design, in the form of a spray of ivy leaves, was formed by an outline of silver paper, filled with green paper projecting nearly one-eighth of an inch above the surface of the leather. The same material was ingeniously used to greater advantage in a walnut clock case, but here the decoration was spoilt by poorly executed woodwork. The exhibits of embroidery and lace included some beautiful work by Mistress Crane, Mrs. Signorelli, and Mrs. Foulger. The Royal Female School of Art was represented by several pieces of work, including designs of silk brocade by A. Cockburn and Annie Seaton, woven by Messrs. Warner & Sons, Newgate Street. The metalwork exhibits contained little of importance; in fact, much of the work was very commonplace, and in many cases unfinished and poorly executed. The work calling for any attention was a silver repoussé bell-push, with a beautifully modelled figure ornament, by E. M. Rope. Miss Beth Amoore sent the lock plate which we reproduced in ARTS & CRAFTS in February, 1905, also a small sweet bowl, nicely worked, but the effect was marred by an unpleasant combination of colours in the different metal used for the legs. A beaten brass bowl, with the decoration representing a hunting scene, by M. Williams, was excellently worked, the animals being very well modelled. Wood-carving was not a conspicuous feature, the number of exhibits being very small. The work of E. F. Chambers called for some attention. It included an ingenious design for an oak bellows, the long handles formed by the entwined bodies of dolphins, the heads utilised as a decoration for the body, the workmanship being particularly good. An incised walnut table, and a walnut bread board with a removable sycamore centre, also by Miss Chambers, were very commendable. A carved walnut frame by Mary Simpson was nicely done, but hardly profitable at the price asked. Among the frames was one well designed and gilded by Mabel Bushe Fox. The modelling by E. M. Rope and Florence E. Ward was noticeable for vigorous work. A beautiful example of inlaying by D. G. Chambers was seen in her inlaid pearl fan, with its graceful lines and excellent painting. The relief burning, in the decoration of a table, paper rack, and frame, by Mrs. Viney, showed bold treatment, but the relief was more angular than we care to see.

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STUDY FROM LIFE
BY MARY LEGARD
(The Press Art School).

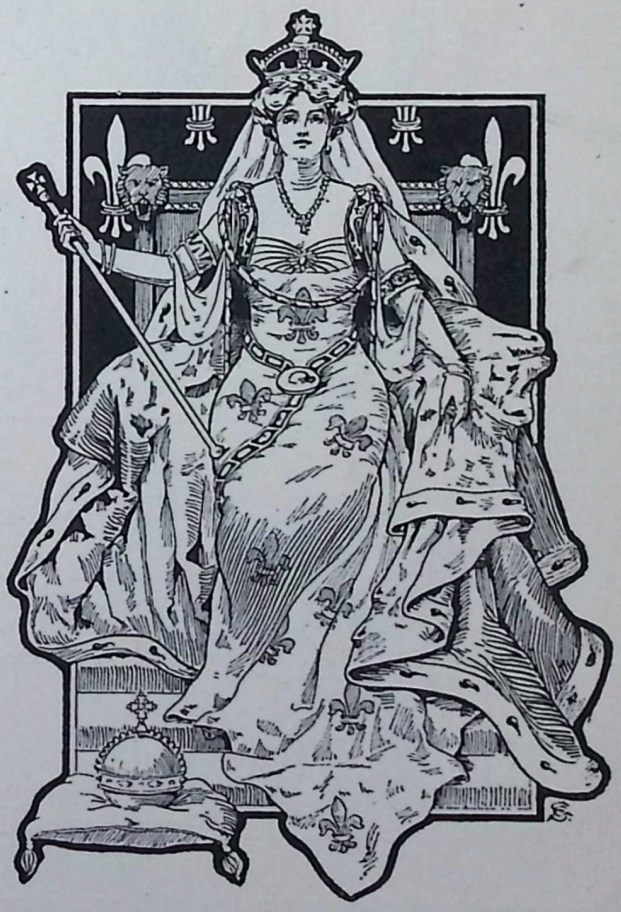
UNTIL recently we must admit we have been somewhat doubtful as to the value of many of the correspondence colleges which have been springing up in recent years. At first we had colleges which claimed that they could teach various professions in the course of a few lessons, and enable their students to earn largely increased wages. Their advertisements were so attractively worded, and success seemed so easy, that many a hard-working clerk and artisan paid their fees, only to find that the tuition was practically worthless—at any rate to them.

We have received, from time to time, letters from readers of ARTS & CRAFTS enclosing prospectuses of various institutions that claim to teach art by correspondence, asking whether we can recommend them to take a course of the lessons advertised.

In the case of two of these schools (both, we believe, now closed) we attempted to make inquiries with a view to giving a fair opinion on their methods, but all information was indignantly refused, and we drew our own conclusions. In the prospectuses of these two institutions glowing pictures were drawn of the prosperity of many successful black-and-white artists; of the despair of editors of illustrated papers because they were unable to find a sufficient number of artists to execute their commissions; and of the life of ease and luxury which is possible to the successful artist. And apparently all that was necessary to be certain of attaining this wealth and luxury was to send along the fees, the college did the rest. Of course, all this is quackery of the worst kind. It is evident that to derive any benefit from correspondence lessons the student must already have taste in the direction of art, and also some previous experience, and, perhaps, only needs a course of thoroughly sound practical advice and training to enable him to turn his work to account.

As far as black-and-white work is concerned, art schools are satisfactory only up to a certain point. The student, of course, learns the A B C of art, and may even acquire the ability to make good drawings, but these are useless to the would-be illustrator, if he is entirely ignorant of the requirements of editors and the technical restrictions of the reproductive processes. "Book-illustration," chiefly on severely decorative lines, is generally the chief output of the black-and-white classes in our art schools, but the "live," thoroughly up-to-date newspaper and magazine work has naturally to be left severely alone by masters who have had no practical experience on the subject. It is not the fault of the masters themselves, but of the system, that students are trained, in the majority of cases, as if they were to become painters, notwithstanding the fact that the career of the average professional painter is nowadays almost a hopeless one for the man who has no private means.

In the course of our inquiries we have come across a correspondence school which seems to be of the very kind needed. This is the Press Art School, of 128, Drakefell Road, New Cross, London, S.E., which is conducted by Mr. Percy V. Bradshaw.



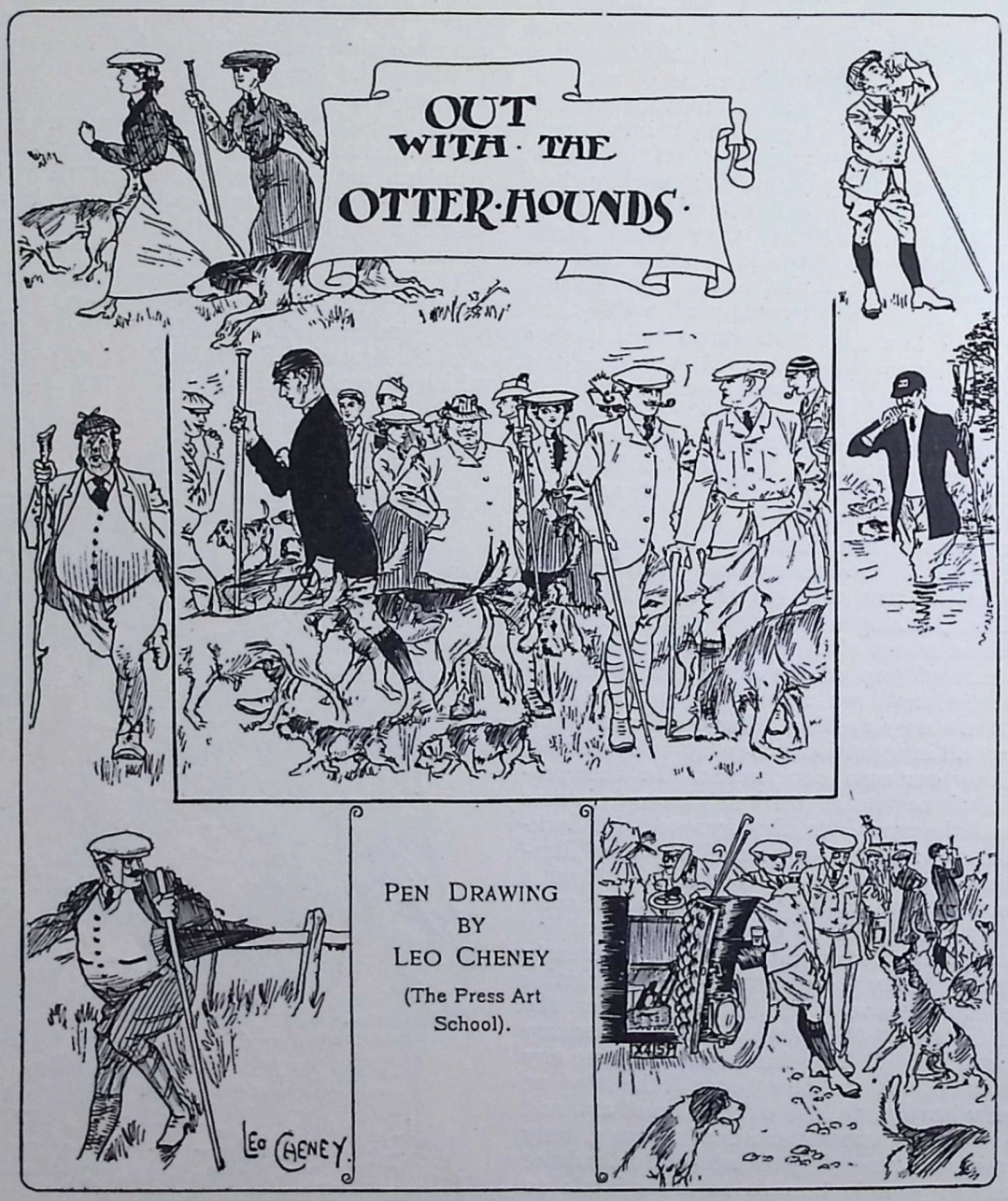
DECORATIVE STUDY BY GERALD E. R. SMITH
(The Press Art School).

Our inquiries here received the heartiest welcome, and not only were we allowed to inspect the whole system of instruction and the students' work, but

we were invited to refer to the students themselves, so that we could satisfy any doubts that might still linger in our minds as to the reliability of the teaching.

The latter was certainly not necessary, for the chat we had with Mr. Bradshaw was alone convincing enough, and the examination of the system of instruction confirmed our opinion that this school is, without doubt, the best of its kind which we have yet come across.

Mr. Bradshaw is possessed of that rare combination, artistic and business ability. He has not only drawn for the press himself for many years, but he has taken pains to learn something of the methods of other prominent black-and-white artists, and studied very closely the requirements of the illustrated press, and the possibilities of the reproductive processes. His students reap the fullest benefit of this experience in the course of instruction they receive.



PEN DRAWING
BY
LEO CHENEY
(The Press Art School).

Mr. Bradshaw supplied us with a rough outline of his system, and we cannot do better than give it in his own words :—

"I wish it to be distinctly understood in the first place that my course does not include instruction in elementary drawing. I assume that students have already shown artistic talent of which they hope to make some professional use, and that they

are in want of thoroughly sound practical advice and training which will enable them to turn their work to pecuniary account.

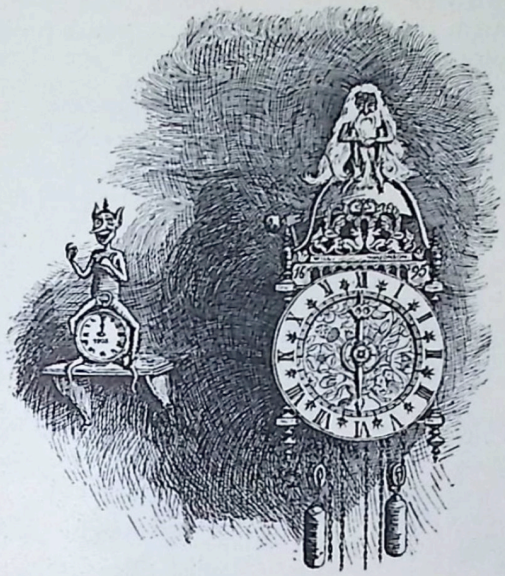


ILLUSTRATION FOR "QUEER CLOCKS," BY SIDNEY M. FRAME

(The Press Art School).

"When would-be students first apply to me, I always ask to see samples of their previous work, and if I see no possible hope of eventual success, or at least of immense improvement, I candidly tell them so, and discourage them from taking lessons. In many cases, however, the students' drawings are sufficiently advanced to warrant my advising their enrolment for the course, and the first task I set them is a solid, conscientious drawing of a head in pen and ink. This must be a good large study, for I strongly discourage the students from working on small drawings; it cramps them, to start with, and does not give them a chance of developing a bold line and free style. Besides which, the drawings they do are naturally intended to accustom them to drawing for reproduction, and they must necessarily work on a larger scale to allow for reduction. It is necessary for students to work, wherever possible, from life, and, if they have any difficulty in securing a sitter, I advise them to draw themselves in a mirror. At the same time I send them numerous examples of the work of famous pen-and-ink draughtsmen, not that they may copy them, but to give them ideas as to the various methods of treatment possible.

"When I receive the drawing finished, should it be unsatisfactory, I require a second study of a similar subject, but I first point out the chief faults of the previous attempt.

"The next drawing set the student is a single figure from life, next a background study, then a figure study with background, followed by a subject picture containing a group of figures. When these stages have been passed satisfactorily, and studies in other popular branches of line work completed, wash drawing is commenced, fashion work being among the subjects thoroughly dealt with in the latter part of the course. All drawings are returned to the students with full criticisms, and I not only

PEN DRAWING BY WILL HOUGHTON

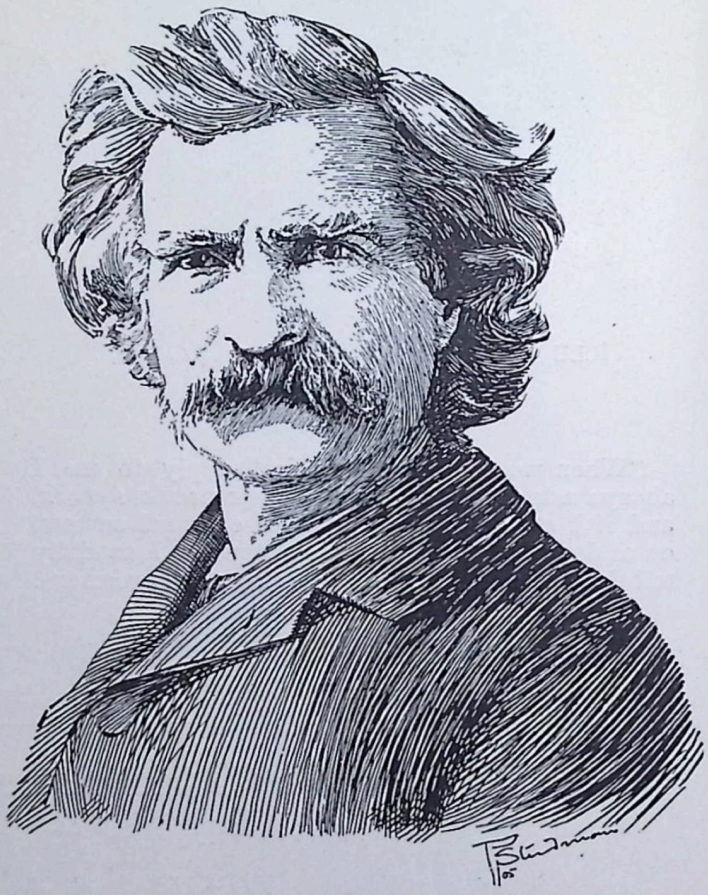
(The Press Art School).

point out their chief faults in words, but often make marginal sketches, showing, for instance, how an eye should have been treated or the expression altered. In addition to my set studies I am delighted to help students with any quantity of additional drawings they may make during their tuition. Although the course consists of twelve lessons, there is no time limit, that is to say, students can take a whole month over each lesson if preferred. This, I consider, gives them ample time for study, and enables them to derive full benefit from the instruction given.

"With each lesson is sent out a long article which deals exhaustively with the various branches of black-and-white work. Among the subjects of these papers are: The Black-and-White Mediums and the Materials for Pen Drawing; The Production of a Pen Drawing from Life; The Formation of a Black-and-White Artist's Reference Library; A 'Punch' Artist and his Methods; On Business Ability and Dealing with Editors; The Examination of Periodicals; Humorous Art and Artists; Originality; Ideas, and how to Develop them; Wash Drawing; Story Illustration; Fashion Illustration; Advertisement Illustration; Illustrated Journalism; 'Line' and 'Tone' Reproduction; Some Novel Methods, Implements, and Devices used by Illustrators; and numerous other subjects of great interest to the young illustrator. When, finally, I consider students have attained efficiency, I supply them with full particulars of firms likely to look favourably at their work, and in many cases I introduce their work myself. In this way I have often been able to put students definitely in the way of earning money long before the completion of their tuition."

The papers to which Mr. Bradshaw refers above contain much valuable matter, and, in our opinion, are alone worth the fees charged for the whole course of lessons (four guineas). The set (twelve in number) contains nearly 30,000 words, written in a bright and interesting manner, and full of useful hints and sound advice. Mr. Bradshaw has kindly consented to allow us to print one of the shorter articles, dealing with Wash Drawing, in its entirety. It will be found on page 173 of this number, and readers can from this judge for themselves of the practical value of these papers.

In discussing originality, Mr. Bradshaw impresses on the student that it is not sufficient to merely draw in an original way. "So many hundreds of students," he says, "draw well. The student who wishes to come to the front must draw and *think*. It is not enough nowadays for a man to sit down and draw the first subject that crosses his mind, something that may attract him on account of the interesting technical study it offers; you cannot afford at the commencement of your career, if you wish to be professionally successful, to merely please yourself. You may, after you have made a success, be able to devote a certain amount of time to doing the work you love; but to succeed as a black-and-white artist you have other people to please. Editors are not going to devote valuable space in their pages to the advertising of your opinions and ideas, unless those ideas and opinions happen to be amusing or original. Do not run away with the notion that because you happen to be interested in the study of a certain type of model or costume, editors and public will necessarily also be interested. Mere art school studies are not wanted, and you are saving up disappointment for yourself if you devote valuable hours to tackling a subject which is old or commonplace. Subject is all



PEN DRAWING FROM LIFE, BY P. STEEDMAN
(The Press Art School).

important; no matter how attractive your technique may be, if the subject or idea of your drawing is not worth tackling, resist the temptation to draw it. From a purely artistic point of view, subject is nothing and treatment is everything. From the editor's point of view quite the reverse is often the rule.

"Art students with an eye to professional black-and-white work would be very well advised to consider the fact that if they are to entertain the average man they must study the average man's tastes and opinions, and not fall into the common art-school error of making the successful drawing or painting of the figure the one big aim of their lives.

"Always be on the look-out for bright and attractive subjects for your pen and brush. If a para-

PARSLEY-LEAVED BLACKBERRY
BY A. H. BRETT
(The Press Art School)

graph in a newspaper dealing with an event of immediate interest suggests a good humorous drawing to you, do that drawing at once, or else do a rough sketch, take it to the most suitable paper, and inquire if the editor would be prepared to consider a finished drawing of the subject."

These articles of Mr. Bradshaw's are full of helpful suggestions and advice similar to the above, and but for the fact that it would be unfair to Mr. Bradshaw to print more extracts, we could fill many pages of this magazine with equally interesting quotations.

In conclusion we must thank the various students who have lent their clever drawings for reproduction with this article. These are in no way a picked selection, but only a few of the many equally clever drawings which were shown us at the school. Several of the students whose work we reproduce are already doing illustrations for the various magazines, a result for which they have to thank Mr. Bradshaw. We particularly recommend student readers to study the excellent technique shown by Leo Cheney, Will Houghton, and Sidney M. Frame in the drawings which we reproduce.

"BEFORE you try to draw a face, learn to draw the eye," says Delaroche. Delaroche, who knew how to draw both the eye and the figure it belongs to, ought to be an authority.

THE best way to learn the value of whites and greys is to paint from the cast.

Wash Drawing.

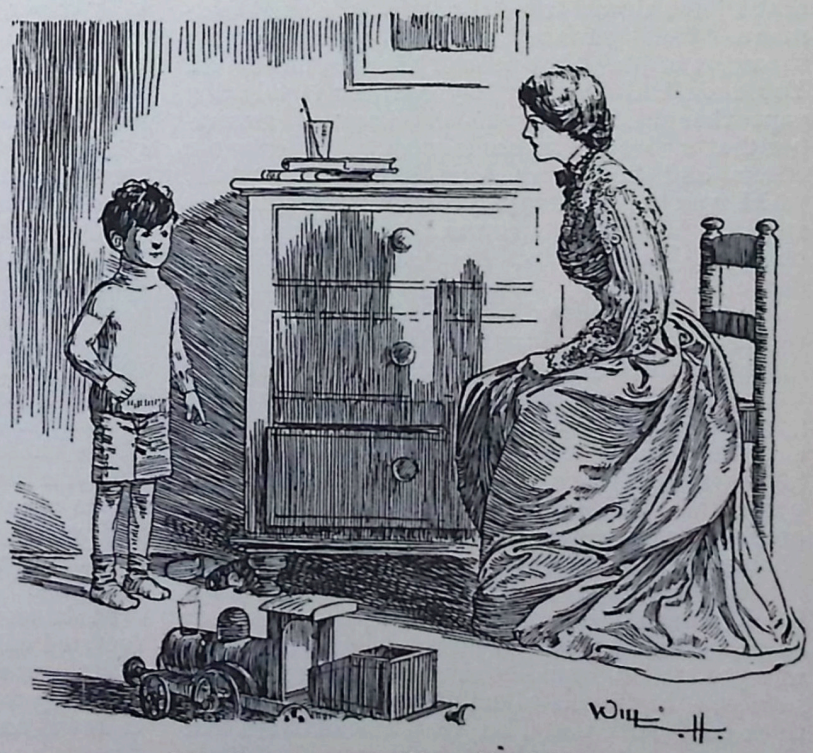
BY PERCY V. BRADSHAW.

THERE are four principal mediums for black-and-white work, viz., pen and ink, wash, body colour, and black and white oils.

Wash drawing is practically water colour drawing, with either lampblack, ivory black, or charcoal grey substitued for the colour. When either of these is mixed with Chinese white, the medium becomes body colour. Black and white oils are seldom, if ever, used by young illustrators, and we propose to deal with the more popular mediums here.

THE MATERIALS.

Selection of materials is, of course, most important; for, with unsuitable paper, cheap, gritty



PEN DRAWING BY WILL HOUGHTON
(The Press Art School).

colour, and poor brushes, it is hopeless to expect good results.

Brushes.—About three "sables" should be used, say, Nos. 4, 5, and 6, the prices of which, for the finest quality, are about 1s. 6d., 1s. 10d., and 2s. 3d. respectively, and for the second quality about 10d., 1s., and 1s. 3d. Care should be taken not to let brushes remain in water after your work is finished.

Colours.—Those in tubes are the most satisfactory and economical. Lamp black, ivory black, and charcoal grey should all be tried, but the former is particularly recommended as being the best and most useful from all points of view.

Chinese White will also be required, but it should not be resorted to until the final stages of a drawing. "Albanine," the white sold by Winsor & Newton, is the whitest white obtainable, and photographs its true colour, but it should be used only at the very last stage of a drawing. It cannot be mixed with other colours, and so must be put on pure, care being taken not to rub the drawing afterwards, as the "Albanine," when dry is liable to chip off.

Drawing Papers.—It is desirable to work mostly on *mounted* papers, or boards, as by this means "cockling" is prevented. If the student is prepared to mount his own papers, Whatman's "Not" surface and "hot-pressed," the former for large drawings and the latter for finer work, are recommended. "O.W." (Old Water Colour) paper, a modern rival of Whatman's, is also very largely used by artists. Whatman's paper can, of course, be obtained made up into sketch blocks, a convenient size being 10 in. by 7 in.

As a guide to selection of paper, I may mention that I have always found it advisable to use Whatman's "Not" surface for drawings over 12 in. square, and the "hot-pressed" for smaller work. You should always carefully consider in selecting paper the subject you are about to draw, and remember that a rougher surface is more suited for rustic effects and landscapes than a smooth surface, which you would always use for delicate interior studies. Whatman paper can be obtained mounted on boards at all prices from 2s. 6d. to 18s. per dozen boards.

Tinted Papers are also very much used in brush work. "Canson" paper can be had in eighteen different tints, at the same price as Whatman's, but the student is only advised to try three shades of grey, as when tints are selected which at all approach a definite colour there is danger ahead—from a photographic point of view. It should be remembered that all black-and-white work is photographically reproduced, and that colours seldom photograph at their true value. Yellow photographs very dark, blue almost white, red almost black; and therefore, if a drawing were carried out on paper at all approaching these colours, the result, in reproduction, would be most unsatisfactory. To save you the trouble of mounting your paper on to thick cardboard, tinted boards can be obtained, but these are only recommended for very small, delicate work as they are of very smooth surface and do not take washes well.

"Canson" paper cannot be obtained mounted, and this will have to be done by the student. The process is quite easy, and simply means covering the back of the paper with ordinary paste, sticking it down on to any thick card, such as strawboard, and placing it under some heavy weight where it should remain until dry. Or this mounting process can be left until the completion of drawing, when weights must certainly not be placed on the paper, but the drawing firmly pressed down by hand and left to dry.

Lepard & Smith, King Street, Covent Garden, have some excellent tinted papers, which the student would do well to try.

Ox gall should be kept in readiness. It enables the artist to triumph over the greasy patches one occasionally finds in paper, for a very small quantity of this preparation used with the colour will counteract the effect of grease. But be very careful not to put the brush in your mouth after using ox gall. Should you once do so thoughtlessly you will not need to be warned in future.

Palette, &c.—A porcelain palette, with divisions, such as architects use, should be provided, and a piece of clean blotting paper kept in readiness.

Use two tumblers of water, one to mix colours and the other for washing brushes.

These, with two or three lead pencils and some rubber, complete a fairly exhaustive list of materials.

Wash Work.

It is perfectly legitimate for an artist, in a drawing for reproduction, to adopt any sort of means he may choose to arrive at his object. Wash and body colour, pencil, ink, and chalk may all be used in the same drawing and no objection can reasonably be made, provided the result is good and justifies this variety of treatment. Such a mixture of mediums would certainly have a tricky, unpleasant effect in a picture for exhibition, but a drawing for reproduction is made primarily to be effective when printed, and it matters little how that end is gained. Yet, even in reproduction, there is an inherent charm in a drawing that has been made in the simplest fashion. In the work of several illustrators purity of technique is a prominent characteristic; they are amazingly clever in the use of transparent washes, and they work most simply and directly, obtaining their results apparently at the first attempt, and rarely retouching.

The skilful use of pure wash requires years of incessant practice, and the beginner who is in the throes of early struggles and failures can only look with wonder and despair at such delightfully fresh, sparkling drawings as are produced by J. R. Weguelin and other famous artists, whose illustrations, even in reproductions, look as if they had been squeezed on with a sponge and are still wet.

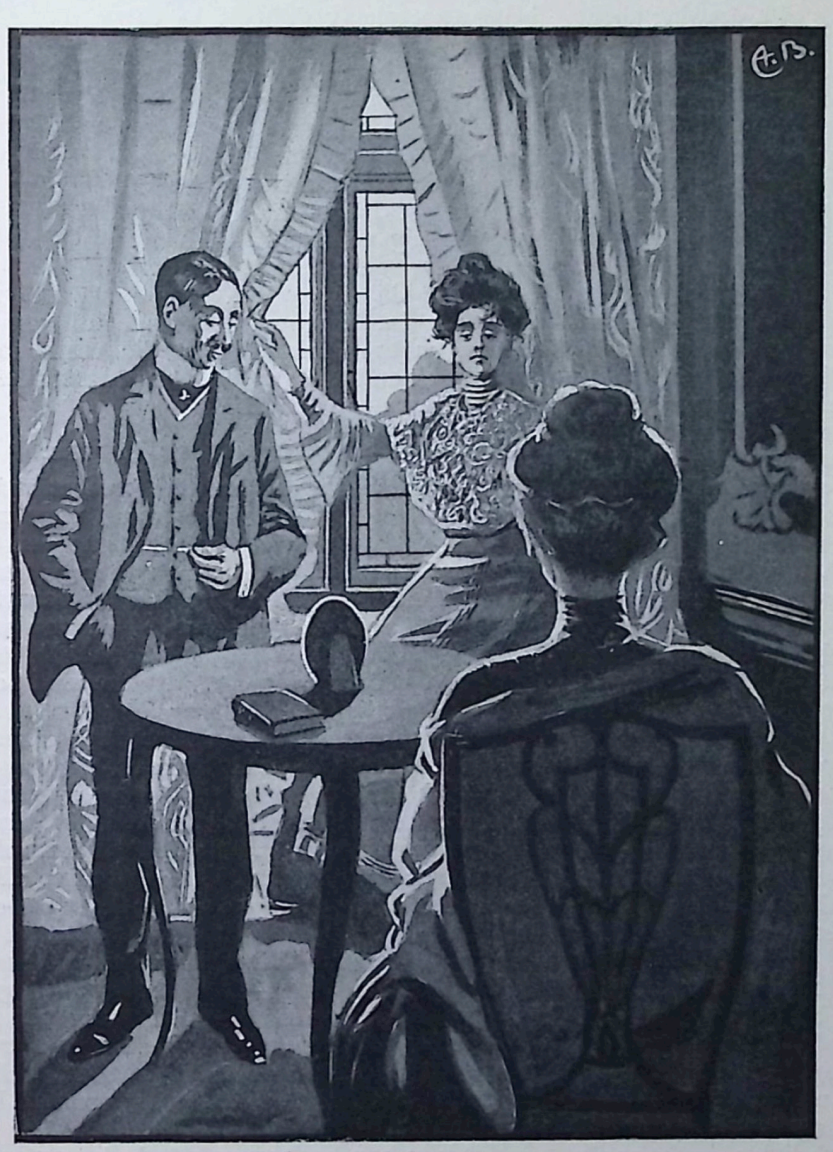
Management of Washes.—It will, of course, be necessary for you to accustom yourself to the use of brush and "colour" before attempting subject pictures or studies of any importance. There are two golden rules to be observed in the use of wash. Mix your colour well on the palette before applying

it to your paper, and do not be afraid of water. For your first few experiments with brush work, try nothing else but putting on washes of various kinds, graduating the colour in various ways.

In starting every study or drawing, first wash the whole surface of your paper with clean water, as this removes all grease, gives a better surface for the reception of the colour, and makes the washes run flatter. While the paper is drying, prepare your palette. Always mix your colour thoroughly with the water, and continue to work it with your brush even after it seems to be dissolved; if a wash has been allowed to rest, stir it up again thoroughly before using. Take care that more colour is mixed than is absolutely required, and that there is at all times an ample supply.

Carry a wash of clean water over the portion where your colour is to be placed, and run the colour into this wash. Continue to use these clean preparatory washes all through a drawing, but not till all previous washes are thoroughly dry. Don't grind the brush into your paper. Float your colour into the clean wash that is waiting for its reception.

After you have made a few experiments with these washes, you can try simple still life studies. Remember that the background should be treated first, and the sketch built up, wash over wash, until the foreground is reached. The lightest tone of an object should be painted first, then the half tones, afterwards the shadows, and finally the darkest darks should be added. Thus the effect is produced by wash within wash, the first being large and pale and the last comparatively small and dark.



DRAWING IN BODY COLOUR · BY ALBERT E. BURTON (The Press Art School)

It is hardly necessary to remind you, of course, that your board or sketch book should never be on a level, but sufficiently inclined to allow of the washes flowing freely.

After you have had some experience, and have overcome the early trials and troubles of the medium, try a landscape or architectural study, from a photograph or Nature. Your paper should be Whatman's "Not" surface, and, after the pre-

liminary washing of the whole paper, you should lightly sketch in your subject in pencil. Look at your architecture or landscape through half-closed eyes, and see it in broad masses. Don't worry about detail until the final stages. Put in the sky first, and gradually work towards the foreground. Remember the advice given above—light tones first, and then on through the various grades of colour until you finally put in your dead black. Carefully decide which is the high light and which the darkest dark of your picture. Aim at breadth; don't worry in the early stages of a drawing about leaving any little patches of light you may see through trees or in windows, &c. These lights can be put in afterwards with Chinese white. Get your broad masses in first, and watch all the tones in their relation to your high light and darkest dark.

No other light in the picture must be as strong as this high light. If patches of light or intricate detail be introduced into the background—or foreground—and the result is a mass of small lights, of almost equal strength to the high light, the picture will be restless, worrying, and artistically valueless. The same applies to masses of dark. Do not have a series of lights and darks struggling desperately with your high light and heavy black, for first place. To make a good picture, there should always be one highest point of light, and one heaviest point of dark. Leave them to their valuable positions, and keep the rest of your colour and detail in subjection. Details must, of necessity, be put in with a smaller and dryer brush than your big masses. All of which, reduced to a few words, means "Be careful of your values."

When you put down a wash, try and determine that it is of the right strength. Going over a wash many times makes it "woolly" and dull. Always endeavour to get your washes as pure as possible, and to keep plenty of colour in your brush. If, when you have nearly finished your drawing, you find that some of the light portions have come too dark, this can easily be remedied by washing out, sponging, or using Chinese white—which is, as I previously mentioned, valuable for touching in details and lights that have been covered by your previous broad washes.

Charcoal Grey should be used only for sketches in which alterations are not likely to be wanted. After a wash of this colour has been put down, it is not advisable to work over it, as, not being permanent, it can easily be removed—even when quite dry. For direct handling it is most useful, as it washes very flat, and high lights can be easily removed by damping the surface with clear water and blotting up until the necessary tone is obtained. This is a very quick and effective method of getting high lights on drapery, &c. Touches of charcoal or chalk are often added to a wash drawing with excellent effect, to obtain texture and quality on certain substances or materials.

Body Colour.

You will, very soon after your early attempts at brush work, be unconsciously making use of the body-colour process to correct mistakes in your wash drawings. There are no general rules to be observed in its handling. It is a combination of Chinese white and black, and is a far less arbitrary medium to use than transparent wash-work. It is directly opposite in treatment, body-colour drawings being made with Chinese white and black mixed together, which colours can be laid one over another without in any way detracting from the merit of the work. Most of the "Tone" illustrations to-day are done in this body-colour medium, it being exceedingly difficult to carry out elaborate subject pictures in pure wash, and the combination of lamp-black and Chinese white giving much more opportunity for easy correction and variety of tone than pure wash. Body-colour is essentially the black-and-white medium for the man who could paint in oils, and wash is the water colourist's medium. Body-colour drawings are usually started on a surface already covered with a wash of half tone, and lighter tones than the background are painted out with Chinese white. In doing body-colour work, the drawing should be made, as regards tone values, on the dark side, as the combination of lamp-black and white gives a somewhat blue shade, which photographs light.

The Use of Tinted Papers.

When grey or a darker tone *predominates* in a subject, tinted paper will be found very useful.

We will suppose you are drawing an interior or some similar subject in which there is very little white. Select the grey paper that is nearest to the predominating tone, and proceed as you would if working on white Whatman's; the lights being put in by Chinese white, at the end of your drawing.

In a moonlight or evening effect the darkest paper you possess would probably be used, but the Chinese white will have to be handled very sparingly and carefully. Have it well watered at first, and feel your way gradually. A pure white would probably spoil the tone of the whole drawing. Firelight in an interior would afford an excellent opportunity for you to try your skill with these toned papers, but you'll discover that the correct representation of the various tones—from the one high light to your deepest shadow—will require the keenest observation and the greatest skill. In introducing a figure into such background studies, don't make it of such prominence that the background becomes of secondary importance.

If it is to be a background study (an exterior with figure, or an interior with figure) don't spoil the balance. The figure should fit naturally and unobtrusively into the picture, and not shout at you.

If, on the other hand, you are doing a figure subject, don't let the background distract your attention. Study dramatic effect. Tell your story simply and strongly; don't allow the spectator's eyes to wander all over the picture for a point of interest. Claim the attention, and direct the eye, at once, to the most important spot in your composition.

Monotyping.

TO artists seeking a fresh means of expression, the introduction of a new medium is always welcome; and though monotyping cannot by any means be called new, yet there are many to whom it is but a name, and who have no knowledge of the methods of working. Of the many people who have experimented in monotyping, few seem to have carried it out with much success, and there are so many possibilities in it that there should be a large field open for improvement and development. It is evident that for black-and-white reproduction certain effects can be obtained which would be almost impossible with any other medium.

We recently came across some clever attempts in this direction by Miss Dorothy Weston, three of whose monotypes accompany this article. The one on this page is a particularly good example of the wonderful effects she obtains. There is an extraordinary texture about this reproduction, and it seems to combine the qualities of a chalk drawing, etching, and oil painting.

The following notes on her methods of working were kindly supplied by Miss Weston.

MONOTYPE PAINTING
BY
DOROTHY WESTON

The materials required are few and easy to obtain, a great deal of the work being done with the finger, which, strange as it may seem, produces the finest lines and the most beautiful effects.

It is almost impossible not to produce an interesting effect of some kind in monotyping, with strong effects of light and shade, and, though experience is necessary before one can hope to be regularly successful, yet beginners frequently obtain chance results which are particularly happy. It is these accidents which perhaps deter many from con-

sidering monotyping as a serious art, yet they certainly add to its fascination, and an experienced worker is soon able to take advantage of these peculiarities with the best possible results.

First it is necessary to obtain a piece of good plate glass, which must be slightly larger than the size of the intended painting; a rag, blotting paper, an old brush, a mapping pen, and some printer's ink mixed with black oil paint in equal quantities complete the equipment. It is better at first to work from a pencil drawing; any will do that you happen to have in your sketch book—a figure, landscape, interior, or street scene. Often the more sketchy the drawing, the better the reproduction, for it suggests more to the imagination, though it is quite possible to reproduce a drawing more or less exactly.

First warm the glass by the fire or stove, and, with either a rag or old paint brush, rub the mixture of printer's ink and black oil paint over the surface of the glass, making the darks a dark mass and keeping the lights almost uncovered, the rest being a middle tone. It is well to mention here that, should the worker be somewhat uncertain in drawing, it is possible to place the pencil drawing underneath the glass, and thus follow the outlines shown through the glass when first painting in the masses.

Now, with a pen, brush, or pointed piece of wood, begin the drawing, taking out further lights, or adding touches of colour where necessary, and working on them with the fingers so as to soften hard edges and produce half-tones, putting in all the detail possible without losing or breaking up too much the essential masses of light and shade.

When the drawing has been carried as far as it can be, hold the glass up to the light, and look at the reverse side of it to ascertain if all the horizontals and perpendiculars are correct; for, when working on thick glass, one is apt to imagine a crooked line straight. When satisfied with the effect, again place the glass by the fire, and while it is heating you can prepare for the printing.

The best paper to use is ordinary white kitchen paper or Japanese paper, for both are very sensitive to touch. A rough paper will only reproduce half the lines. This paper must be cut slightly larger than the size of the glass, and dipped into a basin of clean water. The glass being now warm, place the paper, when thoroughly wet, on top of the inked side of the glass, and roll carefully and firmly with an ordinary photographer's squeegee till you observe the paper is thoroughly inked, or this can be ascertained more accurately by lifting up one edge of the paper. Care must be taken when rolling that the paper does not shift. The paper can now be lifted off, and the print examined.

When using Japanese paper, it must be very care-

MONOTYPE PAINTING BY DOROTHY WESTON.

fully handled, for it is thin and delicate, and when wetted is exceedingly flimsy. It is also advisable to place a piece of clean blotting paper over the top when rolling the print, for this absorbs the water, and greater pressure can be used.

MONOTYPE PAINTING
BY
DOROTHY WESTON

To make an outline drawing, it is best to rub only a little of the ink and paint on the glass, and to draw straight away with a hard brush.

Monotype prints, when finished, should be mounted on thick board. A. F. P.

The illustrations of Miss Dorothy Weston's monotypes which accompany this article are printed from simple half-tone blocks. None of them have been touched up or engraved by hand.—EDITOR, A. & C.

PURE outline in landscape is at once very difficult to use well, and very fascinating when successful. It is nearly true, as often stated, that there is "no outline in nature," even in the sense that there is no distinct and unbroken contour. Trees are not bounded by firm lines, nor are most rocks, nor, indeed, most other objects in a landscape; and consequently the method of working by masses of tone and value is the easiest and most natural for the student; but, by a well-drawn and suggestive outline, one can render more of what is most interesting in a subject in a short time than in any other way. The student is, therefore, advised, after he has made a drawing in masses, to trace it, making only a strong, firm outline, and trying to give in that one bounding line the character of the tree, or rock, or other object most prominent in his sketch. He may then attempt the same subject from nature, trying to keep his outline as simple as possible, yet not losing any important detail. This practice will have a great effect upon his usual work, for it will lead him to observe more closely the contours of objects, and he will learn to terminate his masses in a more natural way, and to express much of natural form by its silhouette.

Various Methods of Finishing Oak.

BY WILLIAM DANIELL.

NO wood receives more varied treatment at the hands of the French polisher than oak. It is oil polished, wax polished, and French polished, with the grain left open and with the grain filled in, and many are the mixtures used to fill the grain. It is dull polished, and bright polished. It is polished its own colour, light oak, and fumigated and stained a variety of shades of green and brown, and whichever way it is finished, it has a look of quality, provided it is in harmony with the surrounding furniture.

Fumigating Oak.

We will deal first with the most popular way of darkening oak, namely, fumigating. To fumigate oak, we require an air-tight case or room, some strong ammonia (that sold as 880 is the best), and some shallow dishes. Any box or case will do to use for fuming, provided it is large enough to hold the work, and allow sufficient room for the ammonia fumes to get all round the parts to be fumed. As the wood is made dark by the action of the ammonia fumes, care must be taken to make the fuming-room or case as air-tight as possible. This can be easily done by pasting paper over the joints or any place that the fumes might escape through.

In order to see the effect the ammonia fumes are having on the oak, a piece of glass should be let into the fume-room or case; or, another way, and perhaps a better way, is to cut a slit in the door or side of the fume-room or box, and insert a piece of oak (a spare piece) through this slit, with a few inches projecting into the inside. It can then be withdrawn occasionally to note the progress of darkening. Unless one is very experienced in fumigating oak, it is impossible to tell whether it is dark enough merely by looking at it. All wood looks lighter "in the white"—*i.e.*, before it has been oiled or polished—than it does when polished; therefore, in testing or judging the colour the fumes have made the oak, it is necessary to wet it a little. The colour when wet is the lightest it can be when polished. Before placing the work in the "case," be sure there are no spots of glue or polish on the parts to be fumed, as any such spots will retard, or prevent the action of the fumes, with the result that there will be light spots that are very difficult to match to the fumed parts.

When placing the work in the "case," be sure that no part to be fumed is covered by another part. Place it so that the fumes may have free access to every part that will be seen when finished. Having placed the work in the "case," pour some strong ammonia into the shallow dishes, and place them carefully inside, without spilling or splashing any ammonia on the work, as a spot of ammonia will leave a dark stain. This done, close the lid, and paper up the edges.

It is impossible to give the exact amount of ammonia to be used to each article, or the length of time it will take to darken the wood. This depends, first, upon the nature of the oak, and, second, on the depth of colour required. It will be found that oak varies very much in its susceptibility to the darkening power of ammonia fumes. As a rule it will be found that Dantzic oak takes the fumes nicely, and that oak with a pinky hue takes it badly.

Staining Oak a Fumed Colour.

Another way of making oak a fumed colour, and one very much practised in the trade, is to coat the work over with the liquid ammonia, either full strength or diluted with water. This is the quickest way, but it has the disadvantage of raising the grain, which, of course, necessitates smoothing down again with glass paper, or, in the case of carved work, with a stiff brush—a nail brush does very well for this. Glass paper should never be used on carving.

When staining with liquid ammonia, it is advisable to do so in the open air, and, as far as possible, stand with your back to the wind. The fumes will then be blown from you.

Staining Oak to Match Brown or Pollard Oak.

It frequently happens that we need to stain or colour ordinary oak to match brown or pollard oak. This can be done by coating it with a weak solution of bichromate of potash, about one ounce of bichromate of potash to five pints of water. Apply with a sponge or brush. When staining with any of the chemical stains, like ammonia or bichromate of potash, care should be taken not to allow the stain to dry on one part of the work before it has all been coated. The reason for this is that, should the stain dry on the first part of the work stained, and we, in staining another part, let a little of the stain run on the part that had dried, we should have a dark patch where the stain had run.

To stain a piece of work with many sides, like a chair or a settle, one piece at a time, without letting the stain run on to a part that has been, or is to be stained, is no easy matter; and the best way is to have the stain weak, coat it on wet, work quickly, and do not allow one part to dry until there is a coat of stain over the lot. Then wipe the stain off with dry rags, and, when thoroughly dry, smooth the plain parts and mouldings with glass paper, and the carved parts with a stiff brush.

Staining Oak "Antique" or Dark Brown.

A very good stain for staining oak dark brown, may be made by soaking vandyke brown in liquid ammonia, to make a paste, and add this to a saturated solution of bichromate of potash. Apply

CHARCOAL PRELIMINARY SKETCH
BY JEAN JACQUES HENNER

in the same way as other stains for oak. This stain diluted makes an excellent walnut stain for any kind of wood.

Green Stains for Oak.

For this purpose any of the green aniline dyes will do; or any of the green dry colours used by painters. If the aniline greens are used, they should be dissolved in water; but, if the dry colours used by painters are used, as they are insoluble, they must be mixed with some medium, such as size, or oil, or polish.

Preparing for Polishing.

Having considered the various ways of staining and colouring, we will now return to the fumed oak, and take it a stage further. We will suppose that the article to be fumed is a hall settle, and that, on taking it out of the fuming-room, or "case," we find that one of the panels is much darker than we want it. This is very likely to happen, especially if the wood for our chest has been got at different times. Fortunately we can remedy this by bleaching.

Bleaching.

To bleach oak, or any other wood, dissolve oxalic acid in water and apply with a brush to the dark part. When the bleached parts are dry, they must be well washed to remove the acid from the wood. (Oxalic acid is a poison, and should not be applied with a rag held in the fingers as it will damage the skin.)

Matching and Colouring.

Our settle has now been fumed, and the dark part bleached. The usual way of commencing to polish oak is to oil it with rawlinseed oil; but one of the effects of this is that it darkens the wood. Now, we will suppose that on looking at the settle we find that the ends of the arms, and the turned pillars supporting the arms, are as dark as we want them, so that to oil these parts would be a mistake.

When a polisher wishes to keep wood its own colour, when he wishes to prevent either oil or stain from darkening any part, he sizes or coats the part to be protected with polish. We will therefore coat the pillars and the ends of the arms with polish. This done, we may proceed to oil the settle all over. The usual way is to apply the linseed oil to the plain parts with a piece of wadding, usually termed an "oil rag." For the carving, thin the oil with a little turpentine, and apply with a hog's-hair brush. A small sash tool, as used by painters, will do very well for this. Then wipe the oil well off.

In order to get our settle a uniform colour, we have bleached some parts to make them lighter, oiled some parts to make them darker, and sized other parts to keep them their own colour, and yet we may find it is not uniform in colour, or the shade we want it. The novice must not think that this is very unlikely; in fact, my experience teaches me that it very often happens just as I have stated it. We will probably find that, on looking at the cross-rails, all the parts with the grain running in a horizontal position are lighter than those running in a perpendicular position. In some wood this is so to a marked degree. In order to match the lighter portions to the darker portions, we must resort to colouring. To do this, we will use a coloured polish, applied with a camel-hair brush. Never use paint or pigments, as they are not transparent, and will therefore hide the "figure" and make the work look muddy.

The two chief colours used by polishers for "colouring up" are black and red. The black polish may be made by mixing gas-black or lamp-black with thin polish—*i.e.*, half polish and half methylated spirit—and then straining it through a piece of muslin. Another way is to mix a little aniline "spirit black" with the thin polish. This is the readiest way, but is not as permanent as gas-black.

Red polish may be made by mixing Bismarck brown with thin polish. This is the red polish mostly used by French polishers.

Having got our colours ready, we will mix a little of the black with some very thin polish until we get the depth we require. Care must be taken not to get it too strong. In colouring it is better to give two or three coats of weak colour rather than risk getting it too dark; but, should we get it too dark, we can wash it off again with methylated spirit.

We will now suppose we have made the light parts dark enough, but we find they are not the same shade as the other parts—not brown enough. We can remedy this by mixing a very little of the red polish with some thin polish, as we did with the black, and colour with this. As these colours are transparent, one colour will show through another, so by coating the black over with red we produce a brown.

The settle may be now left as finished, or it may have another coat of oil, or be wax polished, or waxed and sized with polish, or French polished to any degree between sizing and "spiriting."

Oiling and "Sizing."

Oiling and sizing is the most common way of finishing fumed oak. It consists of oiling and putting a thin skin of polish *evenly* all over the work. It is important that there should not be more on one part than another, or it will look unfinished. Apply the polish with the rubber, without oil, with a straight movement, and not circular, as in "bodying." Of course, should the polish raise the grain, it will need smoothing down with glass paper.

Wax Polishing.

This is perhaps the oldest way of polishing wood, and one that has never entirely been superseded by any other process. With the advent of French polishing, however, for some time it was very little used, until the introduction of "fumed oak," when it became the fashionable way of finishing "fumed oak," and remained so for some years. Now, however, although largely used for fumed oak, it is frequently used in conjunction with French polish, that is, the wax is used more as a filler, and not as a polish. The polish is got by "sizing" it over with French polish. This method has some

advantages. Wax polishing requires no skill; patience and "elbow-grease" are the chief requirements. Although wax polishing is used as a finish for all kinds of wood, it looks best on, and is chiefly used for, oak. Some of the objections to wax polishing are that wax never really becomes hard. Warmth will always soften it; and, as it has somewhat of a sticky nature when soft, it must, of course, act as a dust collector. This may not be a great objection in the country, where the air is clean, but in smoky towns, where the curtains on the windows become dirty with soot in a few weeks, this is a consideration. Another objection is that it will not stand damp as well as a French polished surface. One may wash French polished work with advantage, but to wash a wax polished surface would necessitate re-polishing. It is customary to French polish the woodwork round a bath, and with reasonable care it will withstand the damp; but one would not think of wax polishing the woodwork of a bath and expect it to wear.

To wax polish, use ordinary beeswax mixed with turpentine. Sometimes other ingredients are used, but it is very doubtful whether they are of any advantage. The wax is mixed with turpentine in order that it may more easily be applied and more evenly distributed. To make the mixture, first shred the wax and then melt it. Of course, great care must be taken not to let the wax come in contact with a naked light, as it is very inflammable. Then, while the wax is in a liquid state, add the turpentine. This mixture is used when cold. The proportions of wax and turpentine are not of great importance. As a matter of fact, the turpentine is used only to thin the wax, so that it may more easily be applied. When the mixture has been applied, the turpentine evaporates, and it is the remaining wax that is polished. It will be found that a mixture of the consistency of lard will answer most purposes except on carved work, when it should be used in a more liquid form.

The wax mixture may be applied with almost anything: felt, calico, muslin, or scrim will do equally well. Personally, I prefer coarse canvas or scrim for the flat parts and a nail-brush for the carved parts and mouldings.

The advantage of using scrim for the application and the preliminary polishing of the wax, is that, as it is a coarse material, it is easy to rub off any superfluous wax that may be found on any part of the surface. This is rather important, as the less wax there is ordinarily on the surface the better the polish will wear. The wax should be rubbed well into the wood. For the final polish, felt will be found very useful. The wax is polished by sheer rubbing—"elbow-grease"—and in this respect it is very unlike French polishing.

I have referred to the present practice of waxing and "sizing" with polish. I believe this to be the best way, as the application of a thin layer of polish on top of the wax has a hardening effect. When this plan is adopted, do not apply the French polish until all the superfluous wax has been rubbed off the surface, and the turpentine has evaporated.

"Stiffening Up."

This is a term used by polishers in the North of England for a method of finishing that is adopted by a polisher when he does not intend to give more than one "body" of polish to the work. It is an inferior finish, but one commonly used. In fact, of late years this has become the standard way of finishing polished work, and it is the exception when a job receives three "bodies" and is "spirited off."

The method of procedure is this. In the case of fumed oak, the work is fumed, as previously described, oiled, and the grain filled in. (*Note.*—The work is not matched up with the colour at this stage, as is the case when it is only intended to oil or wax the work.) Then it is "sized" with polish and smoothed down with glass-paper, and then matched up with the polish colour, and afterwards "bodied in," and sometimes "bodied up" as previously described. It is then "stiffened up."

To do this, take a rubber of thin polish—that is, polish of ordinary consistency thinned with methylated spirit, say, half polish and half spirit. Place the rag over the rubber, as before, and apply with a light sweeping motion from end to end of the work, and repeat this until the polished surface is free from oil and rubber marks. Do not use any oil when using the rubber as a "stiffening rubber." Some polishers get very good results by this method of finishing, results not to be accomplished except by long experience with this kind of finishing.

Another mixture used for "stiffening" is made by mixing in a bottle two-fifths polish, two-fifths spirit, and one-fifth "glaze." This is used instead of the rubber of thin polish, and is applied in the same way.

Filling-in Open-Grained Wood.

As previously stated, when open-grained wood, such as oak, is to be "bodied in," it is customary to "fill-in the grain" with a "filler." This is done to save time in bodying, and also to save the cost of the polish that otherwise would have to be used to fill the grain. When large quantities of wood have to be French polished, this saving both of time and material is, of course, an important consideration.

There are a great many mixtures used by French polishers as "grain fillers"; but, as a number of recipes can only be confusing to a novice, I, therefore, only give a few that are simple but very useful:—

1. Ground whitening made into a paste by mixing it with raw linseed oil and turpentine, half oil and half turpentine, or turpentine only.

2. Ground whitening and ground pumice-stone, half of each, made into a paste, with half oil and half polish.

3. Tallow and plaster of Paris mixed together to form a paste. To make this, first melt the tallow, then add the plaster.

When making a "filler" for any of the dark woods, or even for a light oak, the "filler" should be coloured to match the wood. It is not necessary to be very accurate; but, of course, the colour should be something near the colour of the wood. Dry

colours are used, and may be bought from any paint shop. The following pigments will be found useful :—Yellow ochre for light oak; yellow ochre, gas-black, vandyke brown, or burnt umber for fumed oak. These colours may be used separately or mixed together, according to the shade of the wood—Venetian red and rose-pink for mahogany, and vandyke brown or burnt umber for walnut.

When mixing dry colours with the "filler," they should be thoroughly and evenly mixed, or a patchy appearance will result. To use these "fillers," take a little on a piece of rag, scrim, or canvas, and rub it thoroughly into the grain of the wood. Rub across the grain. Then, with a clean piece of rag, remove all the filler from the surface of the wood. This must be done thoroughly; for, should there be any filler left on the surface, the work will have a blotchy or muddy appearance.

When polish is used in a "filler," care must be taken to fill in a small portion of the work at a time, as the polish sets quickly, and, when thoroughly set, could not be removed from the surface with a rag; a scraper would have to be employed.

A "filler" should not be made sloppy, as in that condition it will rub out of the grain.

When wood has to be "oiled" previous to the filling being applied, the oil should be allowed to dry; if this is done, the "filler" will have a better chance of sticking in the grain; but if the "filler" is applied while the oil is wet, it will probably rub out of the grain.

Sometimes, on a large piece of work like a sideboard, different parts receive different treatment, that is, it is customary to put more polish on some parts than on others. This, of course, is to save time. The top and all prominent parts receive two or three "bodies" of polish, and are then "spirited off." The ends and similar places are "bodied" once or twice and then "stiffened up," and the inside of the doors are "oiled and sized"; or, in the case of open-grained woods, like oak and mahogany, they are "oiled," "filled-in," and "sized," the mouldings and similar parts being "glazed," so that every process of finishing polished work is used on one piece of furniture. When it is intended to finish a large piece of work in this manner, a lot of time would be wasted, unless the work was looked at as a whole, and some method of procedure adopted. If a French polisher had a large sideboard to do, he would probably do it in this manner :—If it had to be stained, he would stain every part that required staining before he took it a stage further; then he would smooth down, oil, and fill-in the grain, and size it all; then he would get all the parts together and match them all up, and when they were all a uniform colour he would take the parts he intended to "spirit out" and "body" them in, then all that he intends to "stiffen-up." By this time the parts first "bodied" would have had time to sink; these would then be "bodied-up" and allowed to stand while the parts to be "stiffened-up" would receive another body and be finished.

The work would then be in this condition: every part, except the parts to be "spirited out," would be finished, and the parts to be "spirited out" would have had two "bodies." These would then receive another "body" and be "spirited out," and the mouldings "glazed." Thus the most important parts that had to receive the most polish would be "bodied" first and finished last.

Glazing.

"Glaze" is in very common use as a finish for polished work. It is known by a number of names, more or less descriptive of the speed with which a shine can be produced by its use. Glazing is an inferior finish, and is more of the nature of varnishing than French polishing. It should never be use don flat surfaces, but may be used with advantage on parts that could not be "spirited off" without the expenditure of more labour than under ordinary circumstances we can afford.

Glaze is a very thin varnish, and, therefore, having little or no "body," is of no use except over a body of polish. It may be applied with a camel-hair brush, sponge, or rubber; it should not be applied with a brush except where it is impossible to use a rubber.

When applying glaze with a rubber the rubber should not be pressed firm like a polish rubber, but should be folded up soft, more like a sponge, and fully charged with the glaze. Apply with a long, light stroke from end to end of the part to be glazed; one coat of glaze is usually sufficient, but should it require another, the first coat must be allowed to dry before the second is applied. A few minutes between each two coats will be long enough.

When the work has been well "bodied" and carefully glazed, it has the appearance of work that has been "spirited off," but will not wear as well, owing to the gum resin of which it is made being of a soft nature.

Oil Polishing.

This method of polishing is rarely used except for dining-table tops; it is more like wax polishing than French polishing, and, although tedious, is not difficult.

Oil polishing, unlike wax polishing and French polishing, will, when finished, stand both water and heat; for dining-table tops this is a great advantage, and the reason it is not more generally used is that it takes a long time to do. To make a good job will take some weeks; the more open the grain of the wood the longer it will take to polish.

Linseed oil, raw, boiled, and mixed with various ingredients, is used for "oil polishing," but the finest polish can be produced with "raw" linseed oil.

The polish is produced by rubbing the oil into the wood, with a considerable amount of pressure. For polishing a large surface like a dining-table top, a brick wrapped in a piece of felt or baize makes an excellent rubber. The pressure supplied by the weight of the brick saves a considerable amount of labour. A little oil should be put on every day and well polished with the rubber; the more it is rubbed the brighter and harder the polish will become; this is to be repeated until a satisfactory polish is produced.

Wm. Daniell.

Metal Work.

By HERBERT J. MARYON, late Director of the Keswick School of Industrial Arts.

IV.—Filigree.

THERE is no craft in which there is wider scope for beautiful workmanship than in that of jewel making, and in this we include, not only small articles for personal adornment, but all that class of fine work largely used in the past for the decoration of ecclesiastical and other symbolic metal work. Many fine old crafts were formerly employed for such purposes which have long since almost fallen into disuse, though signs are not wanting of a general revival of such work. One usually associates Filigree work with the East, especially India, but it should not be forgotten that it was once widely used in Europe. Much beautiful Greek and Etruscan work of this kind is still in existence, and nearer home we have examples, probably unsurpassed, in the beautiful goldsmiths' work wrought in early Christian times by the Irish craftsmen. Although a modern worker might well pause before attempting to emulate the extraordinary skill of these earlier craftsmen, the simpler forms of filigree work are well within his power, and will amply repay the care and attention necessary to their successful execution. The tools required are few and simple, and no great strength is needed, as in the heavier forms of metal work. As much of the work is composed of wire, the first essential is to provide for its proper manipulation.

The ordinary form of drawplate is that of an oblong piece of steel, several inches long and perhaps a quarter of an inch thick, pierced by several rows of holes. These last vary in diameter, but taper out wider towards one side of the plate. The largest may be an eighth of an inch in diameter, the next very slightly smaller, the next smaller again, and the twentieth or thirtieth hole perhaps of the size to admit the passage of a very fine needle. In another drawplate the largest hole may be of the last-mentioned size, and the smaller ones so fine as to be almost invisible at their lesser end. Drawplates are made to produce wires of various sections—round, half-round, square, oblong, triangular, &c. For small work the plate is held in the vice, with the smaller end of the holes in it towards the worker. He takes the piece of wire which he wishes to reduce in size and makes a point at one end of it, starting to file about an inch or more from the extremity. After oiling or greasing the wire, he pushes its pointed end through the various holes in the plate in succession from their wider end till he finds one through which it will only just go. He then places the point of the wire in the next smaller hole, grips its end with the drawtongs or a pair of pliers and draws the wire through. The wire is reduced in thickness by being pulled through a hole which tapers to a smaller size at one end than at the other. It is now drawn through other holes in succession, till reduced to the thickness desired. It is well to oil or grease the wire to make it draw more easily. After having gone through several holes, it will be found to have grown longer and harder. It must be annealed, or it may break. If thin, great care should be taken to prevent any part of it from being melted during this process. It should be wound in a coil and tied closely with binding wire, no loose ends or bows being allowed to project. If any should be left out, they would probably be caught by the flame and melted. A small coil of wire may be swung round and round on the end of the mouth blowpipe over the jewellers' gas-jet till annealed. Wire up to one-eighth of an inch in diameter can be drawn by hand; for larger sizes a drawbench or some similar appliance is necessary. Half-round wire can be produced by

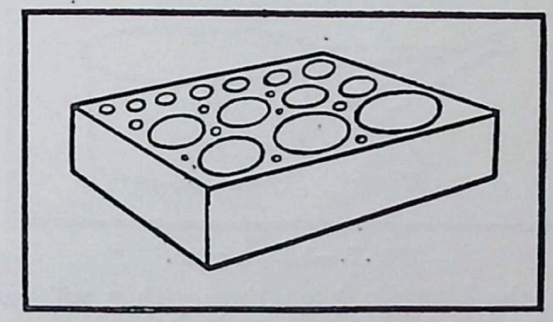


Fig. 6.—Doming Block.

the aid of a round-holed drawplate in the following manner:—Take a piece of round wire and slightly flatten it, either with the hammer or by passing it through the rolls. Fold the flattened wire in half, and pull the double wire through the holes in the plate, the folded end going first. The two pieces must not be allowed to twist themselves together as they go through the holes. Keep them straight by holding the blade of a knife between them, close up to the drawplate. Of course, two strips of half-round wire are produced instead of one piece of round.

Twisted wire is largely used in jewellery. It is made in many varieties, the simplest of which is that produced when two pieces of round wire are twisted together. To produce this twist, it is usual to take a long piece of wire, to fold it in half, and grip the two ends in a vice. A repoussé tool, or any small peg, is put through the folded end and the wires twisted together. The twist may be a right or left hand one as desired. Many beautiful effects may be produced by the combination of pieces of each laid side by side. Some good twists may be produced by combining a square or beaded wire with two round ones, by using wire oblong in

section, or by combining several pieces of twisted wire to form a cable. Wire which is to be twisted should always be carefully annealed first; every part of it must be made equally soft, or the twist will not prove an even one. Very beautiful twists were used by the old Irish goldsmiths in some of the torques found in that country. They were produced by soldering together by their edges three or four long strips of thin gold, so that when combined they had the section of a cross. In each of the four right-angled grooves between the ridges a round wire was placed (but not soldered), and the whole tied together with binding wire. The combined strips and wires were then twisted in the ordinary way. Afterwards the binding wire and the four round wires were removed. The purpose of the latter was to support the thin strips during the operation of twisting, for without some such support the long ridges would have been badly buckled.

Grains are the tiny balls of metal so frequently used with filigree wire work. They can be made by placing scraps of gold, or whatever metal you are using, on a charcoal block and directing the flame

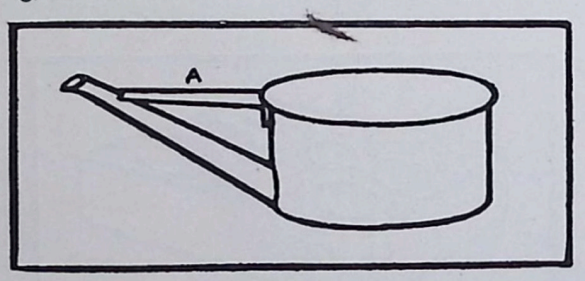


Fig. 7.—Soldering Can.

from the blowpipe upon them. They will each melt up into a little ball—ready for use. If many grains are required of the same size, it is well to take a piece of gold wire and to wind it in a close spiral coil upon a piece of iron wire. If the coiled gold wire be cut down one side, a number of separate rings of exactly equal weight will be released. These, when melted, will form grains equal in size. An easy way to cut the rings from the spiral coil is the following:—Insert at one end of the iron wire a small piece of clock-spring, leaving part of it, sharpened to a knife-edge, projecting on one side. Slide the coiled gold wire down until its last turn rests against this spur. Put the other end of the iron wire through a hole in the drawplate too small to admit the passage of the coiled gold wire. One end of the gold coil, therefore, rests against the drawplate and the other against the sharp spur. It will be seen that, if the iron wire is now pulled through the drawplate, the spur on its further extremity will cut through each coil of the gold wire in succession, and the coils or rings will fall on the bench. Now take an iron box, and spread inside it a layer of powdered charcoal. Arrange the little gold rings all over this, taking care that no ring touches another. Shake some more charcoal over the rings, and arrange another layer above. Repeat the process till the box is full of powdered charcoal with hundreds of little gold rings separated by it. Fasten the lid on the box and heat it till red-hot. Each of the little rings will melt up into a bead. When cool, the charcoal may be washed away, leaving the gold grains ready for use. Branches and leaves are made from wire. To make a leaf, take a piece of wire and dip its end into borax, and hold it then in the flame from the blowpipe. The end of the wire will melt, but will not drop off; it will run up into a ball on the wire. Now flatten out this club-shaped end, and file it to the shape of a leaf. Several of these leaves may be combined to form a branch. To make a larger leaf, melt up a scrap of metal upon the charcoal, and thrust the wire for the stem into the molten mass, or cut the leaf out of sheet metal and solder it to its stem.

The small bosses of metal which make so decorative a feature among wire work are made from discs of sheet metal cut out by a circular punch or trimmed to shape with the shears, and afterwards bossed up by means of punches and the doming block shown in Fig. 6. It will be seen that the block (of steel or brass) has a series of hemispherical holes in it. These hollows range from about a sixteenth of an inch to an inch in diameter. The punches are of different sizes, and have rounded ends to correspond with the hollows in the block. They are of boxwood, brass, or steel. To make a boss, take a disc of your metal, of about the thickness of a sheet of good notepaper, and drop it into one of the hollows in the doming block—a hollow rather wider than the diameter of the disc. Take any convenient punch, and, after seeing that the disc lies level in the hollow, place the punch over its centre and give it a good blow with the hammer. The disc will be nipped between the curved surface of the hollow and the corresponding part of the punch. It will therefore be compelled to take their shape. Now shift the disc to a smaller hollow, and drive the punch which corresponds to it firmly home. The boss will be now complete. Should any part of it project above the edge of the hollow, file that part off before removing the boss from its temporary resting-place. The two halves of a ball can be produced in this way, and one knows that they will fit each other exactly. Hollow balls can, however, be bought ready made. The bosses in filigree work need not, of course, be raised so far. A slight convexity is often sufficient to catch the light. Should a doming block be not available, bosses of metal may be prepared by the help of a metal doming punch and a block of lead or tin—the latter for choice, as it takes a cleaner impression. A hollow is made in the block by hammering the punch into it, and the disc of metal driven into the hollow in the ordinary way. It is well, however, to put a sheet of thin paper between the disc and the block to prevent the transference of any trace of lead or tin to the boss.

In very fine work it would be clearly impossible to apply the borax and solder in the ordinary way, for the inevitable result would be that the borax, in boiling up, would move the lighter pieces of the work from their places, and separate them from the pieces of solder intended to fasten them

down. It is not an easy matter either to cut up solder small enough to use in soldering pieces of metal less, perhaps, than the head of an ordinary pin. It will be evident, on the other hand, that, if too large a piece of solder be used, the light appearance of the work will be lost. It is necessary, therefore, to go to work in quite a fresh way. It will be remembered that it is when the water in the borax solution, used in soldering, is being driven off that the great expansion takes place. Obviously, if the water can be evaporated before the borax is applied to the work, one cause of trouble will be averted. There are several ways in which borax can be prepared dry. It may be put on a metal plate and heated till it has boiled up and got thoroughly dry. The hard cake formed by it must now be finely pounded up. If some of this dry powdered borax, instead of the ordinary mixture of borax and water, be applied to the work, it will be found to act quite as well. For very fine work the borax should be heated till it has melted into borax glass, and then ground extremely fine in a mortar or on a glass slab. A little vaseline or petroleum should be mixed with it to prevent any loss while grinding. Borax prepared in this way will hold on to even a rounded surface, when in its dry, powdered form it would be likely to fall off. The solder for use with this finely prepared borax should be in the form of filings. Take a piece of whatever solder you are to use, and, with a fine file, reduce it to powder—by filing it all away. The dry borax and this powdered solder may be applied to the work with a spatula, or by means of the little vessel shown in Fig. 7. It is like a small garden watering can with a straight spout. The upper side of the spout-stay A is roughened by making a number of little nicks across it with a file. About equal amounts of the dried borax and solder filings are placed in the vessel. When all the pieces of work have been arranged in position for soldering, the little can is taken in the right hand and the nail of the forefinger repeatedly drawn over the roughened surface of the spout-stay. A slight vibration is thus set up, which causes the borax and solder powder to be discharged from the spout in a thin stream, which can be directed wherever required. Great care must be taken, in applying the heat, to do so very gently, and to prevent any of the lighter pieces of work or solder being blown away by the draught from the blowpipe. The late Signor A. Castellani, the Roman goldsmith, who successfully copied the almost inimitable Etruscan gold-grain work, was, for this reason, led to almost abandon the use of the gas-jet and blowpipe. However, all but the very finest work can be successfully soldered, if the heat be applied from below, and care exercised to direct the blast to where it will not disturb anything. To make the pendant shown in the illustration (Fig. 8), consisting of a central boss surrounded by three or five other bosses, the intervals between being filled with leaf work or scrolls of wire, proceed as follows:—Make the bosses first, and arrange them in position on a piece of modelling wax, pressing them in slightly. Arrange the sprays or scrolls to your liking round about the bosses, taking care that each piece is well supported by touching (and afterwards to be soldered to) several others. Put grains wherever required, and then cover the whole with plaster of Paris to the depth of half an inch. When this has set, remove the wax, and the back of the pendant will now be visible, and can be soldered together at will. Put strengthening wires anywhere that they may be required, taking care that they do not show from the front. Break away the plaster, boil the work in pickle, and polish it in the ordinary way. Should there ever be any difficulty in soldering a piece of work owing to its fragility, or the existence of any thin wires, or other pieces liable to be caught by the flame and melted, the best thing to do is to cover the whole work with liquid plaster of Paris, leaving exposed only the parts which are to be soldered. When the plaster has been well dried, the soldering can be performed without any danger.

Chains may be made in several ways. A very light one, which will go well with filigree work, and

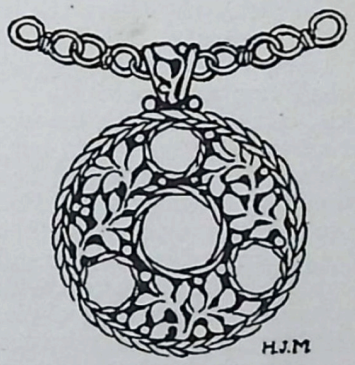


Fig. 8.—Pendant.

which requires no soldering, may be made as follows:—Take two pieces of iron wire (or knitting-needles), say, one-eighth of an inch in diameter and three or four inches long, and wind round them a piece of thin gold wire to form the shape of a figure 8. Start by putting the wire once round the first iron wire or needle, then put the second needle close up beside the first, and make a turn round that; finish the link by winding both ends of the wire tightly round the connection between the two needles. The second and succeeding links are made in the same way; but they must be looped on to their neighbours before the ends of the wire are twisted round. A little practice will enable the coil in the middle of the link to be made very neatly. For a soldered chain, take a piece of iron wire the section of which is the shape of the inside of the proposed link—*i.e.*, an oval wire for an oval link, an oblong wire for a link oblong in plan. This piece of iron wire is called a mandril. Wind the gold wire on the iron mandril as closely as possible, then with a fretsaw make a cut straight up one side of the coil, and the links will fall off. Link them up. Make a small hook of binding wire, and hold the link to be soldered, with the join uppermost, on it. Have ready some small pieces of

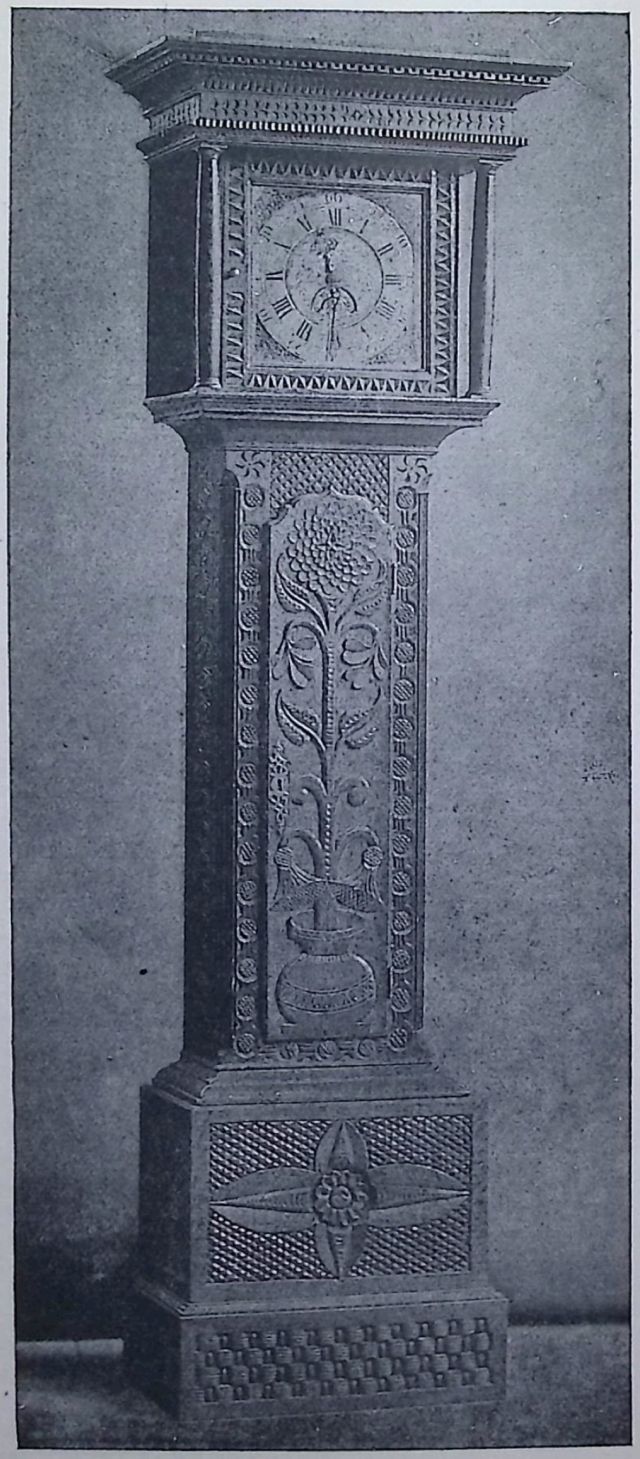
solder on the borax slate, and with a brush put the borax and solder in place. A single blast from the mouth blowpipe should complete the joint. In making large links on a shaped mandril, it is well to wind a strip of paper on the mandril first, and to anneal the wire before cutting off the links. The paper will be burnt away in the annealing, and leave play enough to allow the links to slide off.

Round wire, except in very small sizes, will be found difficult to manipulate for filigree work, so flattened wire, which will bend easily in one plane, is preferable. To work out a design composed of spirals and other curves, with grains at intervals, only a few tools are required—a pair of pointed tweezers, a flat stake, and a sharp chisel with which to cut the wires. Rest the end of the wire on the stake, and bend it to whatever curve is required, trying the result repeatedly by resting the bent wire on the drawing, cut off where required. Arrange each piece in position on a scrap of thin sheet iron, and, when one group of wires and grains is complete, solder the joins and go on with the next group. Boil in pickle to remove the borax. Combine the several groups, cover all of the first set of joints with loam, rouge, whitening, or plaster, so that none shall run, and solder up the last joints. Boil in pickle, clean and polish the work. Filigree can be bent a little after soldering, but if much of a curve is required, the wires should be arranged on a shaped mould before soldering. For instance, if the work is to take the form of a half ball, the wires may be arranged and soldered when either inside or outside a cup made of sheet iron, which has been painted over with a thin coating of plaster of Paris in which a little gum has been mixed. The plaster is used lest the work should become soldered anywhere to the iron bowl. The plaster should be allowed to get quite dry before any of the wires are arranged in position. They may be stuck into their proper places with rice paste or gum tragacanth. Instead of the plaster-covered iron bowl, a lump of dry plaster may itself be carved to shape, and serve for the mould upon which the wires are arranged. The plaster must be very carefully dried after the borax has been applied, for, if any moisture be present inside, the plaster may fly to pieces when heated, and spoil the work.

The simplest method of doing pierced work is by means of the fretsaw. The frame is similar to that used for wood work, but the saws have much finer teeth. In fixing the saw, see that the teeth point towards the handle of the frame. A very simple rest for piercing on can be improvised by screwing a piece of board on to the top of the bench so that it will project several inches beyond the edge. A V-shaped notch, three inches long and an inch and a half wide, is cut in the part of the board that overhangs the bench. The work is placed on the board over the notch. Keep the saw vertical.

Two rules to be borne in mind are: (1) Never solder up any hollow article without leaving some hole to allow the escape of the air; for the next time the work is made red-hot it will be likely to explode and damage itself—and possibly you. (2) Never attempt to use hard solder on any work upon which there is any soft. The latter will, when made red-hot, alloy itself with the work and "burn" bad holes. Either scrape off every particle of soft solder, or give up the attempt to use hard solder on the work at all.

HERBERT J. MARYON.



AN OAK CARVED CLOCK-CASE, BY J. HERBERT.

Practical Talks about Wood-carving.

BY HERBERT TURNER.

IV.—Mechanical Aids to Wood-carving.

In this Talk I wish to say something with regard to the use of those mechanical contrivances that are within the reach of, and are very often used by, carvers. I do not refer to any machine which, by the aid of steam, gas, or electric power, will "carve" panels, blocks, and other pieces of work in perhaps as many hours as it would take a craftsman weeks to do, but to those simpler tools whose use *may*, in some cases, be legitimate, but which are, I am afraid, often called into requisition when they could, with advantage to the artistic and natural finish of the work, be very well dispensed with.

These mechanical contrivances I wish to talk about are: The router, rifflers, sand-paper, rasps and files; and, in some measure, the punch would come under this heading. I will briefly describe what these are, and what are their various properties and uses, and will then consider what limits should be placed upon their use, and what, in fact, is their legitimate sphere of usefulness.

The router, one form of which is shown in Fig. 16, is a tool which has for its object the lightening of labour in cutting out the ground; and it also assists very largely in getting the ground to a uniform level or depth. It consists of a body part, which should be from 4 in. to 6 in. in length and from $1\frac{1}{2}$ in. to $2\frac{1}{2}$ in. in width. Somewhere about the centre of this block a hole, or "eye," is cut, large enough to take a cutting, or scraping iron, and a wedge; or, if a screw is employed instead of a wedge, a piece of iron or brass plate against which the screw presses. These are the essential principles of a router. Sometimes handles are formed at each end to get a better grip of the work. The cutting iron is set in the body in an almost perpendicular direction, and varies in width from $\frac{1}{8}$ in. to perhaps $\frac{3}{8}$ in. or $\frac{1}{2}$ in., depending, of course, upon the size of the field of the ground. It is made to project from the face of the router a distance equal to the required depth of the ground. To use it, the ground is roughly cut out with a quick gouge, and then the router is applied and worked quickly backwards and forwards, scraping and pushing

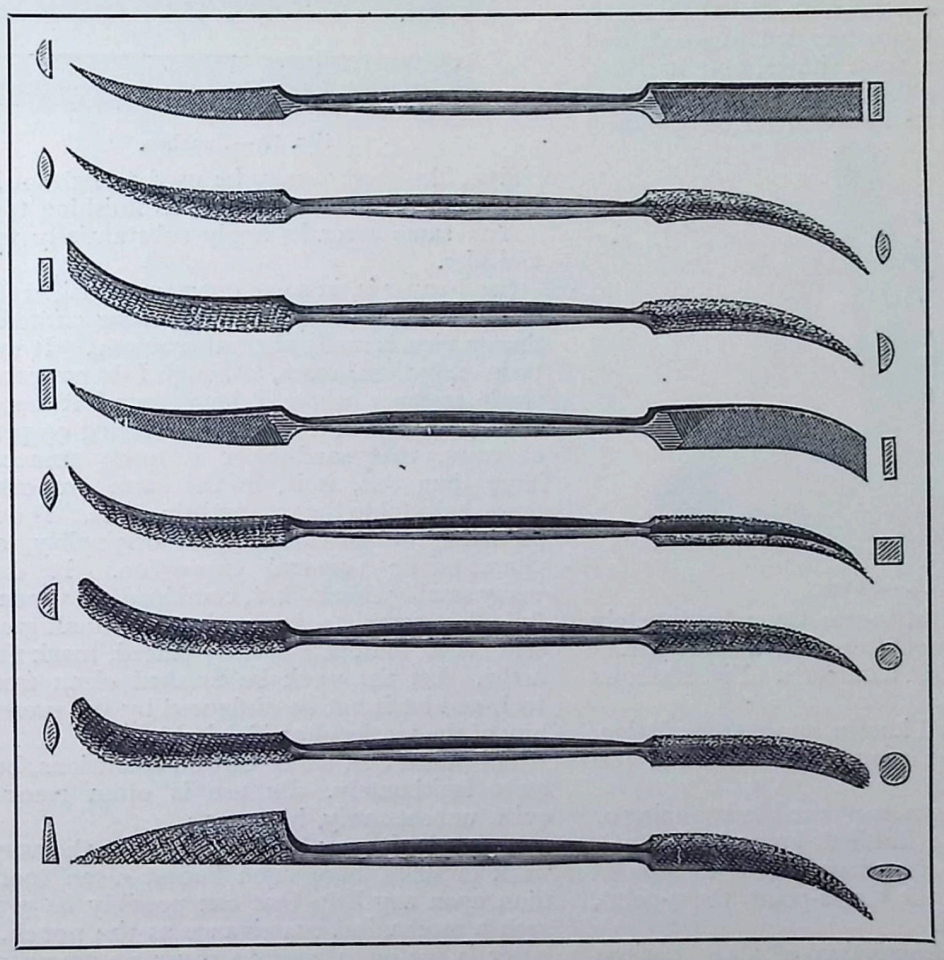


Fig. 17
RIFFLERS

Figs. 16, 17 & 18 are reproduced by permission of Messrs. R. Melhuish, Ltd.

channels in all ways, until these channels all fall into one another, and a level although not a smooth surface remains.

Rifflers are really rasps and files of somewhat peculiar shape, being double-ended—*i.e.*, having cutting surfaces at both ends. They are circular, semi-circular, square, triangular, and oblong in section, and are straight and curved in respect to their length; and they vary considerably in texture of surface. They are illustrated in Fig. 17. Their use is to wear down to their ultimate shape and size those parts of a carving—generally one in very high relief—which are not easily reached effectively by the ordinary carving tool.

Rasps and files are similar tools, but the name is applied to those which are handled in wood, and which are much bigger than rifflers, and are, too, quite straight regarding their length. These instruments have a much less limited field of operation

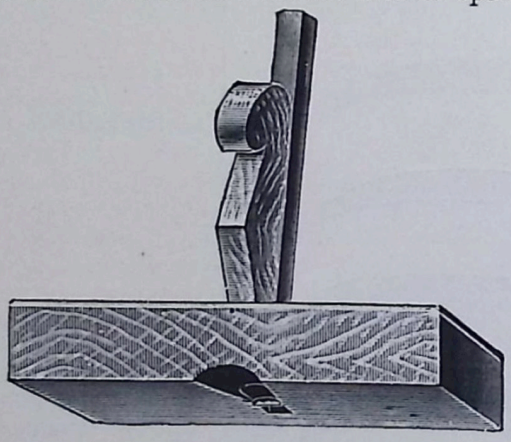


Fig. 16.—Router.

than the rifflers—that is, to use them legitimately—and are certainly much more of a joiner's and cabinet-maker's tool than a carver's. Fig. 18 shows a rasp and a file.

Sand-paper is too well known to need description, and respecting its use more will be said a few paragraphs further on.

The punch is the instrument used in stamping or matting the otherwise finished ground (Fig. 19). The punches may be of various shapes, those most commonly used being the single-point, the 4-point, and the 8-point punch.

So much for the description of these various mechanical contrivances. Now we will consider what are their legitimate spheres of usefulness.

The router, being purely mechanical, evidence of its use should never be visible. It is of great value in lessening the labour involved in getting a ground out to some considerable depth, and enables the depth to be determined accurately over the whole surface. But the scratchy appearance of the surface it produces necessitates that it should not be left in that condition. This can be got over by going over the surface lightly with flat gouges and cutting away this scratched appearance. Thus we may legitimately use the router as a labour-saving device, providing we eradicate all traces of its use.

The sphere of usefulness occupied by rifflers is limited chiefly to those carvings which, being of bold and large conception, are intended to be fixed at some distance from the eye. Thus evidences of the use of such instruments are not visible. They are of much use in working down to proper shape certain parts of carved work that can scarcely be effectively got at by the carving tools. But, again, as in the case of the router, evidences of their use should never be visible; and if there is any likelihood of this being so, such evidence should be carefully cut away, if in any way possible. That means that

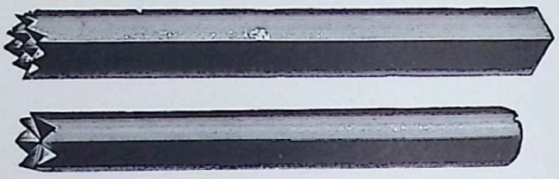


Fig. 19.—Punches.

rifflers, like routers, may be used to lighten labour, but should not be considered as finishing tools.

The same remarks apply substantially to rasps and files.

Sand-paper is, in some quarters, considered to be of quite legitimate value in *finishing* carved work. Such a view is really altogether wrong. It may not be in exceptional cases, although I do not recall any single instance where I have found it necessary. But it can be taken as a law, covering 99 per cent. of cases, that sand-paper is quite unnecessary. More than this, it is, in the same proportion of cases, harmful to the true artistic effect. It destroys all traces of individuality, of originality, and of characteristic personal expression. It destroys many smaller effects that, combined, go to make the full effect complete, in the shape of small groups of tool marks that, intelligently placed, mark the true artist. Let the work be finished clean from the tool, and let it not be disfigured by the presence of any of the marks of artificial aids.

The punch can, under certain conditions, be used quite legitimately. Its use is often resorted to quite unnecessarily, however.

As a rule, it may be accepted that the very best work depends more upon honest clean tool work than upon any help that can possibly be given by such a mechanical contrivance as the punch. The latter is too often used to cover up traces of bad workmanship. Nevertheless, it can be used when-

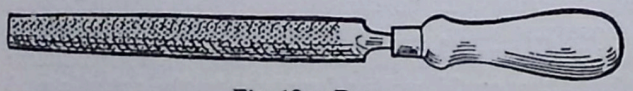


Fig. 18.—Rasp.

ever there exists a definite artistic necessity for such use. But each case should be judged entirely upon its individual and particular merits.

It must be said that "punched" work can never attain to such a high standard of dignity as plain work does. The use of the punch should, therefore, be much restricted, and considerable restraint shown in its employment.

HERBERT TURNER.

Inlaying.

BY A. C. HORTH.

THE art of inlaying is often confused with marquetry, parquetry, and intarsia, but in its purest form is simply cutting out and letting in. It is by no means limited to wood, for many beautiful examples may be seen in the inlaid decoration of marbles, stone, and metals.

It must be remembered that inlaying has its limitations, and care must be taken, when designing for it, that the lines are not made too fine or the work too intricate for the tools used. Inlaying may be considered as a method of letting in small and short pieces of some material into a similar or different material, and when long flowing lines and intricate shapes are required, the marquetry saw must be brought into use.

The tools are neither many nor expensive. The illustrations show nearly all that are required, and, with an ordinary trying plane for use on the shooting-board, a toothing plane for preparing the small pieces of inlay and veneer, a fine tenon saw, a fret saw, a hammer, mallet, and scraper will generally be sufficient.

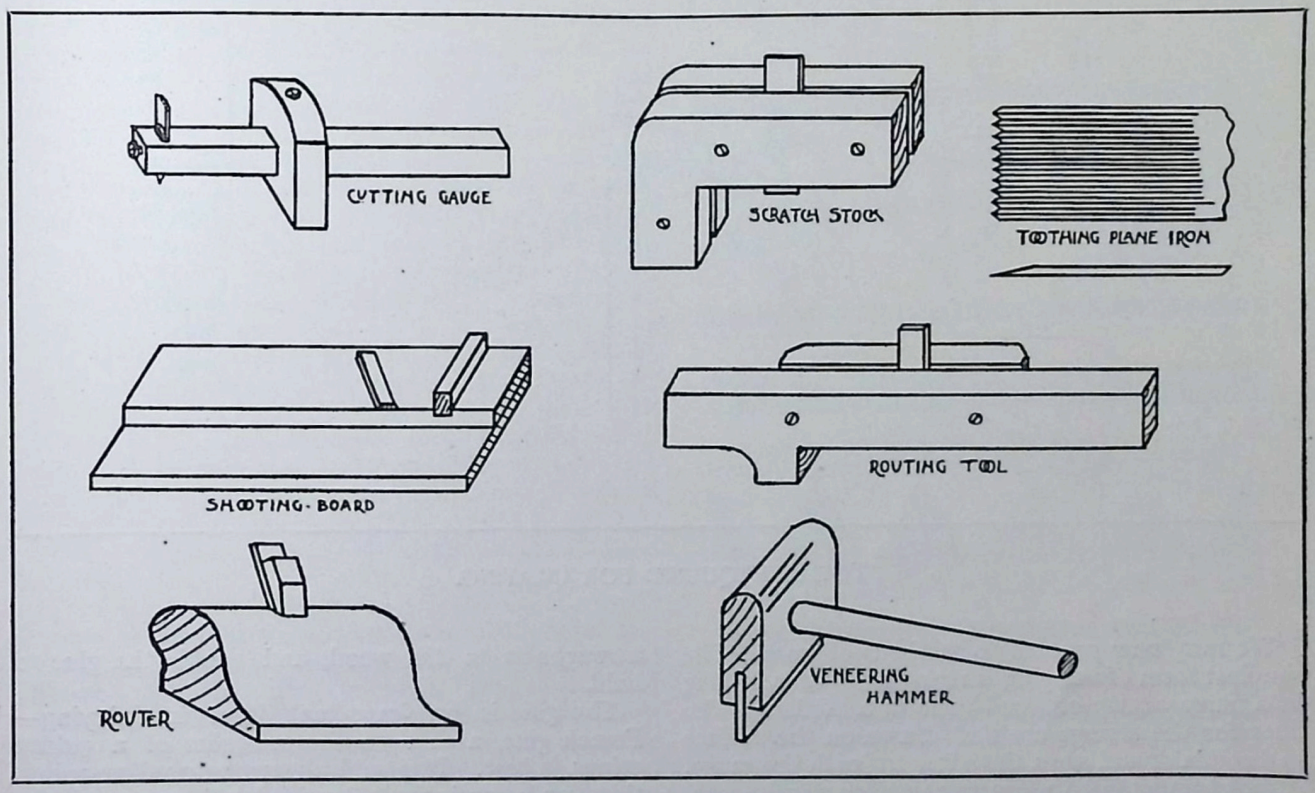
The cramp may be dispensed with, but is very useful to hold work together, and the holdfast is handy to keep the work firm when cutting out grooves.

The glasspaper block has a thin layer of cork glued on the underside, and is shaped to allow the glasspaper to be held firmly and flat.

The pointed knife is an old shoemaker's knife ground and sharpened to a fine edge; it is necessary when working in corners.

The bevelled chisel should be an old paring chisel ground to a long angle and kept very sharp. It may be used for cutting side or base of grooves.

The cutting gauge has a sharp, thin knife edge, is set like an ordinary gauge, and is used for cutting the sides of straight grooves for strings and bandings, and also may be used in cutting veneers.



TOOLS REQUIRED FOR INLAYING.

The scratch stock is used to cut away the wood between the lines made by the cutting gauge. It is made from a hard wood, and may easily be manufactured by the worker. Bolts should be used, or thumbscrews working in a socket; screws, if often used, would soon wear loose. The cutter is made from an odd piece of steel, a broken chisel comes in very useful. This tool may also be used for making moulding, beads, and hollows,

providing a cutter of the right shape is used. The routing tool illustrated is another type of the scratch stock.

The router, or "old woman's tooth," as it is often called, is used for levelling the base of large grooves and spaces. It may be made much longer than that shown, and often a longer router is necessary. The worker in inlaying who can use a few tools will find no difficulty in making one.

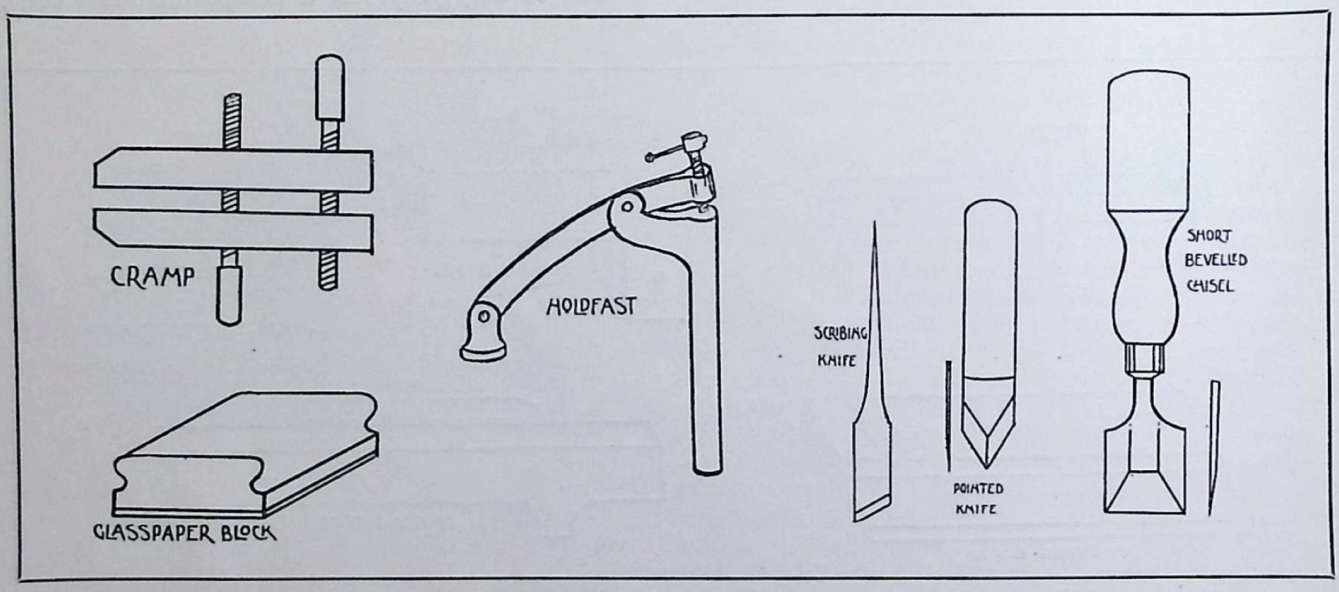
The veneering hammer is also a tool which may be home made. The short strip of iron, nicely ground, is fitted into the head, which is fixed on the handle as shown.

It will be seen from above description that the inlayer need not have a large assortment of tools, and many he may make himself.

penknife, and routed out with a chisel. The string should be steamed, if it does not bend easily.

Bandings are inlaid in a similar manner to strings; but, of course, the grooves are much wider. When inlaying a band round a curve, the banding should be of veneer thickness, and slightly steamed, otherwise the joints will give way. The veneer hammer will be found very useful in pressing down and rubbing in the thin pieces of inlay, and it is generally more suitable than either the hammer or mallet.

Veneer, either plain or made up into patterns, is the best way of providing inlays. Not only are the patterns easily cut out, but they require very little space to be routed out. The under side should be planed over with a toothing plane; this will give



TOOLS REQUIRED FOR INLAYING.

We may now proceed to methods of work. The simplest form of inlaying is stringing, that is, letting in a narrow strip of wood to form a border. The lines for the strings are first drawn on the surface to be inlaid, and then the edges cut with the gauge. After cleaning out the waste to the required depth, fit it, and gently drive home the glued string. It must be remembered that a little bevel should be given to the strings when planing them up, so that the top is slightly larger than the groove. This will ensure a good fit. The method of undercutting is shown in the illustrations, and, when the inlay is large enough to be marked out on the wood, the bevel should be cut first, so that the marked line will show the lower, smaller shape. The grooves, also, may be slightly undercut, but this may be overdone, and the work spoilt; therefore, the worker must guard against too much undercutting, and consider it as a necessary evil.

When stringing is to be worked on a curve, the lines must be cut with the pointed knife, or a sharp

a roughness to the wood, and enable the glue to hold.

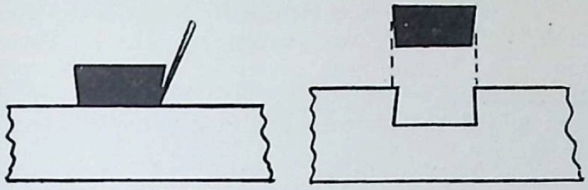
The glue is an important item in inlaying—French glue, a thin transparent glue of a golden colour, is best. It should always be used very hot, thin, and sparingly. Provided all parts of the pieces are covered, the less glue there is the better for the joint.

We will now consider the making up of such bandings and strings illustrated on page 193. A is built up with small squares of checker patterns. Other squares may be devised and made into long pieces, the ends being cut off in thin strips.

B is a string made up from a thin strip from the same piece used for checker pattern, and placed in between two dark strips.

D is similar to B, with the addition of two thin white strips before the outer dark ones. C is made of thin cuts from dark and light triangular lengths, while E may be made similarly, or of squares made of two small dark triangular pieces glued up with a

light length to form a square. F is, of course, an elaborated treatment of B and D. Hundreds of similar patterns have been devised, and may be bought from the veneer merchants; but with ingenuity, and the very large selection of woods which may be had, the inlayer need never be lost for suitable designs.



USE OF UNDERCUT IN MARKING OUT

GROOVE & INLAY SHOWING UNDERCUT IN BOTH

We have up to the present treated of plain geometrical forms, but the most beautiful part of the craft is seen when curved ornamentation is used. Very many beautiful examples of inland decoration may be seen in the South Kensington Museum, and the worker is strongly advised to give the work there careful study. Leaf forms, such as those shown in the illustration of simple inlay, may either be cut from a piece of veneer, or, if many are required, and the form is simple enough, it may be shaped on a long length, and cut into strips. The compound pattern is composed of a wavy line inlaid in short lengths, and cut out as shown at the side. The leaf and fruit are then let in separately. The compound inlay shows the treatment of a rose and leaves in a hexagon. It is taken from a piece of old French work, and shows what may be done with simple forms. The designer must carefully study plant forms, and use the wood most suitable for the particular method of decoration. There is plenty of scope for original work, quite as much in the designing of suitable decoration as in methods of execution.

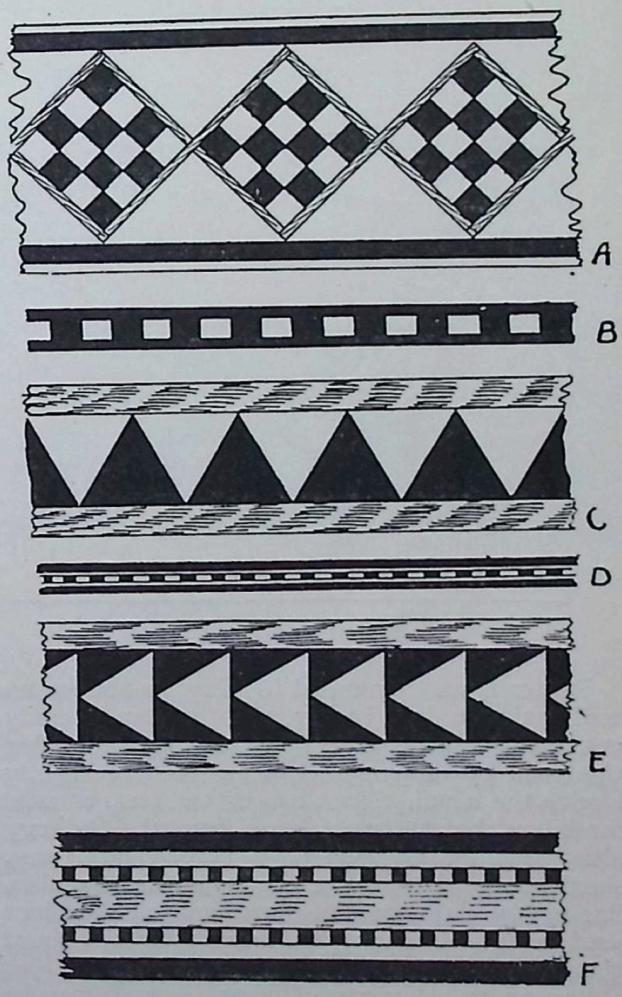
The inlayer should always consider his craft as a means of decoration, and on no account should any work be overdone. In fact, one of the principal reasons for the quite common dislike of inlaid decoration lies in the fact that the work has been used as a means of showing off intricate inlaid patterns, giving the object a tawdry and cheap and nasty effect. The study of principles of ornament will show the worker the value of subordinating the decoration, and using it as a means of giving a graceful line, or breaking up a plain surface, rather than letting in a piece here and there with no settled idea or plan of decoration.

We have left to the end the methods of cleaning up and finishing the inlaid woodwork. The glue should be perfectly dry before being touched, or else it will soon pull up; or, if not, when cleaned up damp, the inlay will shrink when quite dry. A smoothing plane set very fine, and now and again the sole covered with a little oil, will remove any projections; but the final finish should be given with glasspaper, commencing with a fairly coarse number, such as 1½, and successively using Nos. 1, 0, and 00, and finishing with the finest. The last rubbing should travel up and down with the grain of the wood, without considering the grain of the inlaid pieces.

A suitable finish to a piece of inlaying is a dull wax polish, either using the ordinary beeswax melted, or when mixed with turpentine. If the work is to be French polished, a good body should be worked on first of all, taking care to fill in the grain well with plaster of Paris rubbed in dry.

Size and varnish should not be used, if possible, the size usually raising the grain and giving the work a very uneven surface.

We cannot leave the craft without some mention of the other lesser used materials for inlaying, viz., ivory, pearl, tortoiseshell, metal, &c., The first material is very suitable where a rich creamy white is required, and an excellent imitation may be obtained in ivorine (a celluloid substance). Real ivory may be rendered flexible by immersion in phosphoric acid, and may then be used for curves with the greatest ease.

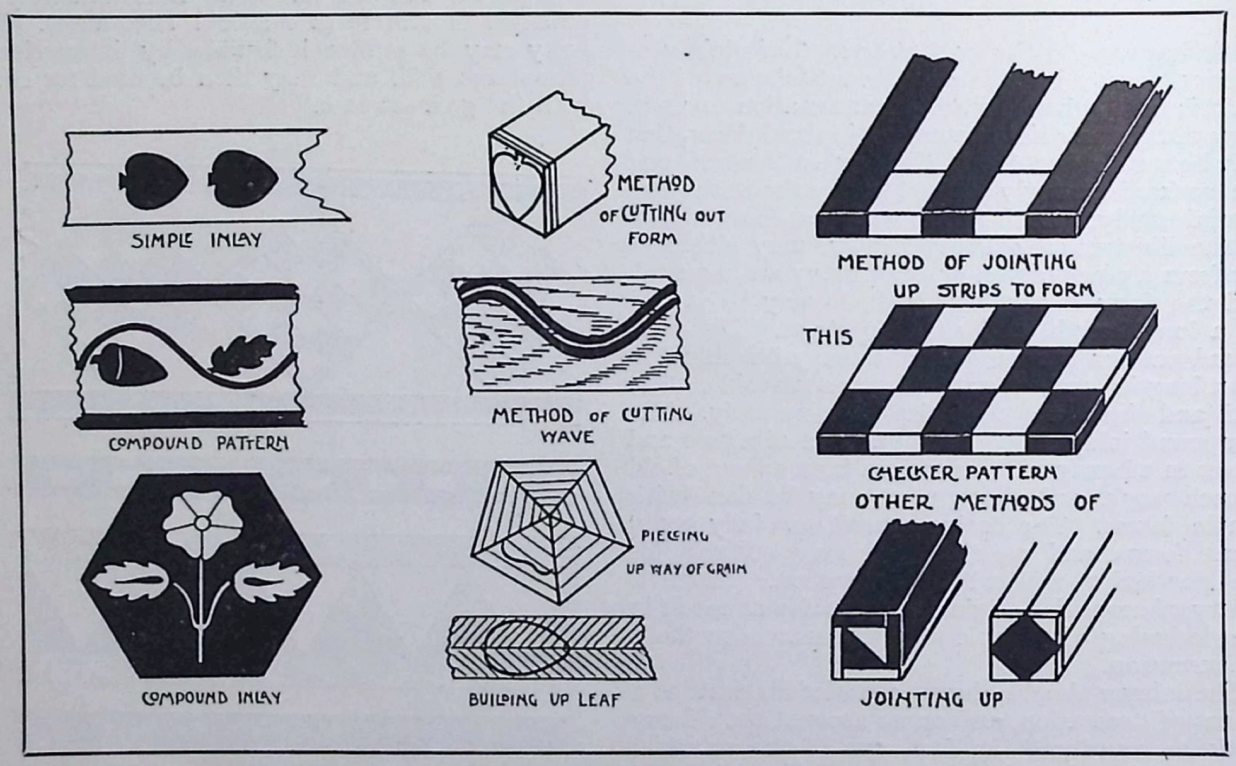


STRINGS & BANDINGS

Pearl is one of the most beautiful materials, if used in moderation and in suitable form. It may be purchased in thin pieces, rarely larger than 2 in.

to 2½ in. square, if quite flat, although curved pieces may be had much larger. The best for general use is what is called mother of pearl, as distinct from blue (the rarest and most expensive), or "white," or "grand white," which is the common white, with very little lustre. Pearl may be easily cut with fine fret saws, and finished to exact shape with fine files. The under side must always be toothed or roughened, as in the case of veneers, before being glued down with ordinary glue. When cleaning off pearl inlay, scrape it, if possible, or, if too hard, fine files should be used, finishing first with fine glasspaper, and afterwards with pumice powder, and polish with a chamois leather pad.

Tortoiseshell is treated in a similar way to pearl.



Pewter is an easy metal to inlay, and shows up well against a dark background. It may be easily cut, and, when fitted in its place, may be further tightened by tapping with a hammer to slightly stretch the metal. Silver, copper, and brass are used for inlays, but their use is not general. Ordinary glue, with the addition of a little Venice turps, should be used to secure the metal, and flat files, fine emery cloth, pumice stone, and oil should be used in turn in cleaning up, finishing up with finest glasspaper.

Repairs to old pieces of inlay, if small, may be made by the use of a gesso composition. This should be coloured to match the work. It is often a very difficult job to successfully repair old work, so that it will often be found advisable to use either gesso or beeswax.

A. C. Horth.

Commercial Printing,

With some Remarks on its Relation to Bookwork.

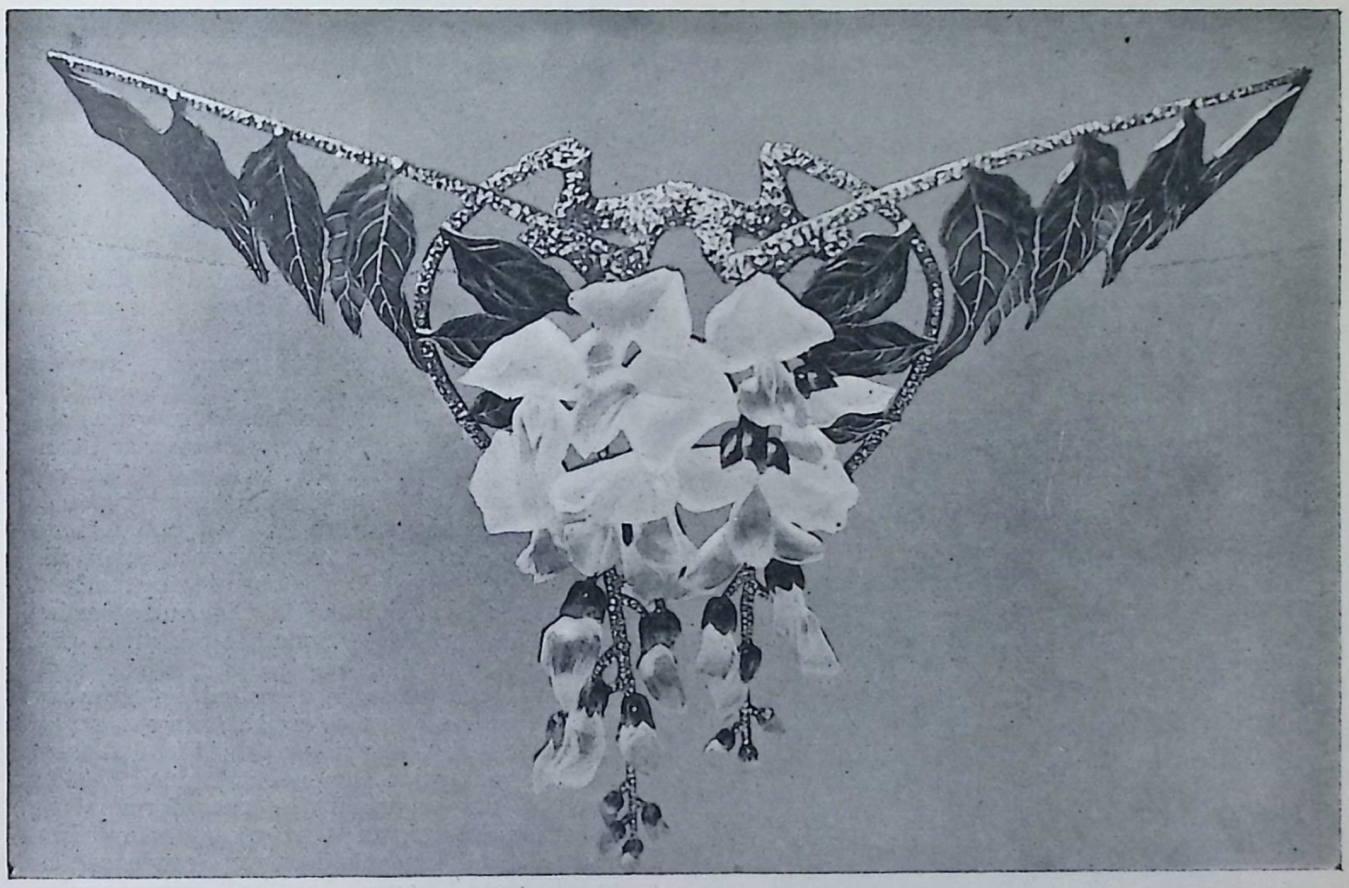
By Charles T. Jacobi, of the Chiswick Press.

At the L.C.C. Camberwell School of Arts and Crafts, Mr. Chas. T. Jacobi, of the Chiswick Press, lectured on "Commercial Printing, with some Remarks on its Relation to Bookwork." The chair was taken by H. J. Powell, Esq. The lecture was given in connection with the Artistic Typography Class, which has recently been added to the school, under the direction of Mr. Amery.

Before dealing with the subject of the lecture Mr. Jacobi addressed a few words of advice to the students.

"Remember," he said, "that technical classes do not exist to teach the business of a printer to those who choose to attend them, but their real function is to supplement the knowledge gained in the workshop. William Morris once wrote on this subject, and, if I am not very much mistaken, to our chairman of this evening, Mr. H. J. Powell. They were fellow workers in various schemes in connection with the arts and crafts movement, and the words were to this effect:—'To teach boys a craft in a school is like teaching boys to swim without water. I am convinced,' said William Morris, 'that it is by some form of apprenticeship, *i.e.*, working in a workshop, and gradually learning a craft by doing bits of it, and by that means only, crafts can be taught.'

"Personally, I cordially support that opinion, for our evening classes must largely deal with the subject from a theoretical standpoint only, and the bulk of the practice must be made in the workshop. It is, however, by a wise and judicious blending of these two experiences that the student has the opportunity of acquiring a more proficient and profound knowledge of his craft—which may truly elevate it into an art proper."



STOMACHER, BY LUCIEN GAILLARD.

Wistaria Blossoms in Solid Carved Enamel, the Gold Stems thickly encrusted with Diamonds, the Leaves in Cloisonné Enamel.

The True Standard of Printing.

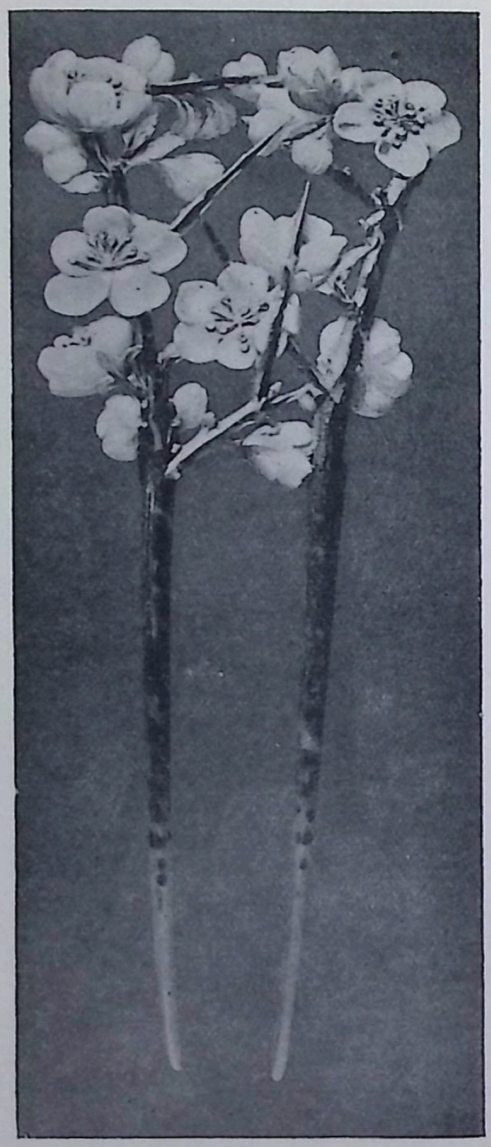
I have now reached the subject of the evening, "Commercial Printing, with some Remarks on its Relation to Bookwork." As most of you know, I am to be identified with a firm which turns out mostly books, although commercial printing is a growing quantity each year in that particular office. The opinions I hold in regard to jobbing work are naturally my own, and I would be a poor advocate if I had not the courage of my convictions in attempting to justify some sort of relationship between the two.

The reason for my comparison of commercial work with book printing lies in the fact that we must really accept the latter as being the true standard of printing, and that all other work in connection with the art is but secondary in importance as compared with the production of books. These are supposed to be of a more enduring character, whereas commercial work is of a mere everyday requirement only, and is often relegated to the wastepaper basket as soon as, or even before, it is read. If we grant this, bookwork may be subdivided into three classes: (*a*) plain, without illustration; (*b*) graphic or pictorial; and (*c*) those treated in a decorated manner. I classify these different kinds with a view of stating that it is quite possible to make even a plainly printed book a work of art, although it has no embellishment. This same remark will apply likewise to a plain piece of commercial printing—one does not always require ornament to show off a job to the best advantage.

Type Selection and Style.

Books may be made beautiful without the aid of the pictorial or decorative artist. What is necessary is to select a really good face of type of a

suitable size to the proposed book. When that has been secured, such a size of page must be made as to be proportionate to the leaf of paper. But this is not all, for one must adjust the type page to a proper position on the paper, so as to have an agreeable margin, and to do this satisfactorily it is



BACK COMB, BY LUCIEN GAILLARD.

Apple-blossoms in Gold, Horn, and Precious Stones.

best to consider the two facing or open pages of the book.

My general theory is that commercial or job printing should be simplified in all directions, and that there should not be such a wide divergence between this class of printing and bookwork. As an example, I will mention that sometimes the copy for a circular or prospectus will reach us broken up into innumerable lines, which, if set up in that fashion, would give it the most distracting appearance, and perhaps resemble a small poster. Supposing we are allowed a free hand, we would run on in book-fashion the major part of the wording, and display the heading, and possibly something at the foot. This, I contend, is the best method of treating such jobs, and I will ask you to compare any two jobs dealt with in this fashion.

Simplicity and Legibility.

Again, one other important point is that all jobs should be confined, like title-pages in books, to one series of face, and as few sizes as possible should be employed in the construction of any one job. If you will have these two things in mind, both simplicity and legibility will be gained at a minimum of labour, and this means at a smaller cost of production—a most important element in these days of competition and cutting prices.

I admit that there has been in recent years a great improvement, which has tended to simplify work of this description. The teachers at the various technical institutes have recognised these points, although the young student is generally credited with a desire to use as much variety as possible. I confess that in my younger days variety was the goal to be aimed at, but nowadays a better and consequently purer taste is being displayed. The old idea was to huddle just as many different types as possible into any one page, and, as the jobbing faces then in use were mostly of an ugly character, the results may be imagined by the present-day student.

Fortunately, many of these old-time and so-called fancy founts have been relegated to the metal-pot, and although there is a much larger selection to choose from, care must be exercised in acquiring only those of really good design. Any form of letter which is disproportionate or degraded from its original conception should be shunned. After all, good book founts exhibit the truest forms of the alphabet, and this again is where my comparison holds good. All letters either very condensed or extended should be avoided, and all curves, angles, and bars should be in keeping with the proper shape or form of the accepted letter.

Lessons Among the Tombs.

Some of the finest examples of letterings and arrangements of the same are to be found in old inscriptions in brass or on marble, and we might do far worse than to make a study of such monuments, for most of them are specimens of simplicity and good effect, and, where in a state of preservation, certainly legible. Mr. Strange, of South Kensington, has often demonstrated these points in his various lectures to students on the subject of lettering. Even more recent work in this same direction will show a decadence when a comparison is made in any old country churchyard of the letterings on tombstones standing side by side. In many instances nineteenth century work is not so good as that done, say, in the eighteenth century.

Our endeavours in commercial printing should be both simple and legible. Art as applied to the disciples of *l'art nouveau* is a misnomer. Art is really the making of things well and in a simple manner—thus rendering them beautiful to the senses. Design is to have some defined notion in one's mind, and then to work out that idea to some suitable and intelligent shape or form—employing good and proper materials for that purpose. If we do this, we will arrive at an artistic result. Any undue mixture or combination of styles is generally disastrous; therefore, have system or method in your work by employing your materials in some simple manner, with a clearly defined object in view.

Good Work with a Modest Equipment.

With regard to the work contemplated by this class, so recently established, you have in Mr. Amery a teacher who has done good work in the North of London, and I am quite sure his efforts, backed up by his assistant, Mr. Bloomfield, will be appreciated by the time the session comes to an end. Mr. Amery's work at the Aldenham Institute is of a distinctive character, and, although opinions may vary on the subject of commercial or job printing, I venture to claim for his work that the results arrived at are as good and quite as effective as the more elaborate work of some other classes, and I also claim that these effects have been gained with far less labour, and with a very modest equipment as compared with others, and this means in the workshop less cost of production and smaller expense to the establishment—the two great factors in a printing office.

As a general rule, ornamentation is not required for commercial work, unless it be to fill up what otherwise would be an awkward gap or space. Borders sometimes may be used with advantage, but they should be selected with great care, so that there is harmony between type and ornament. Again, decorative initials are sometimes helpful in filling out a panel to a required design, or it may be to give particular emphasis to some point.

Bear in mind that masses of lettering arranged in panels are more effective as a whole and more readable than if broken up into a number of lines of varying lengths—such lines being distracting. Again, roman types are generally more suitable than either italic or black letter, although the introduction of a single line in either character may be permissible in some few instances. Occasionally a job set up exclusively in either of these faces may be appropriate, but the copy must first be studied or considered.

To Cultivate a Good Taste.

One way of cultivating a knowledge of the good forms of letterings is to study the works of the old masters in printing, and I am always delighted to help an inquirer with advice on this subject, although I will say that it is a long, yet fascinating, study. A short road, however, is to read, mark, learn, and inwardly digest the contents of such books as E. F. Strange's "Alphabets: A Handbook of Letterings," and Lewis Day's work, "Alphabets, Old and New." These will both give a superficial knowledge of many of the best founts of type, and at the same time show the evolution of the manuscript period.

One other way that will be helpful is to make a point of examining the books exhibited in the windows of the leading booksellers—many of these books being shown with the title pages. As there has been very much improvement in recent years in the general get-up of books, and especially title pages, much may be learned in the way of fairly well-designed pages, not only for lettering, but also for proportion and display.

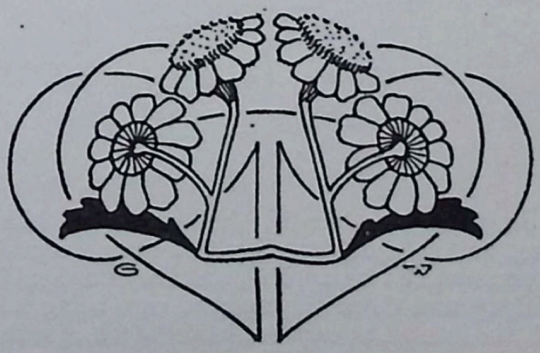
I may mention that at the St. Bride Foundation Institute we have the finest reference library that may be found anywhere. Here is almost every known book, in nearly all languages, on the subject of printers and printing. Besides this, many early printed works are to be seen, including some incunabula—that is, the very early printed books executed during the second half of the fifteenth century, or, to be more explicit, the first fifty years or so from the invention of the art of printing.

The Question of Paper or Cards.

Another important matter is that of paper or cards employed in commercial work, and these two things may be sub-divided into (*a*) natural, and (*b*) artificial surfaces. My advice is, do not use a material with an *un*natural surface unless absolutely necessary, and such things as calendered or coated papers or cards should only be tolerated where actually requisite for the better printing of some half-tone or fine line illustration. To my mind a smooth or shiny paper is an uncanny substance both to the eye and to the touch. Besides, I always think that the impress of types looks so very much better on a natural surface—one that has not had the grain or life rolled out of it. Unfortunately, papers and cards with artificial surfaces are necessary evils, so we must bear with them when necessity demands them for the more satisfactory printing of blocks.

One other great advantage in connection with the use of these is that jobs may, as a rule, be handled directly they are printed, whereas those done on smooth surfaces frequently have to remain overnight, and in some cases even longer.

(From the British and Colonial Printer and Stationer's Report.)



Tail-piece, by E. Johns.

Bookbinding.

A NEW SERIES OF PRACTICAL ARTICLES ON BINDING, TOOLING, AND DESIGNING.

By F. SANGORSKI, Teacher at the Northampton Institute, and
G. SUTCLIFFE, Teacher at the Camberwell School of Arts and Crafts.

XX.—Tooling the Back (*continued*).

WHEN the back of the book has been tooled, the edges of the boards can be decorated with a gold line and a few dots put on the head-cap. The dividers should be drawn along the edges of the board so as to mark a line in the centre, and then the edges of the board and the

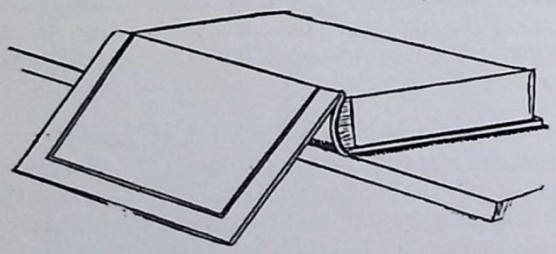


Fig. 92.

head-cap can be glaired. When tooling these lines, the book should be placed in the finishing press, between a pair of pressing boards, which should be placed right to the edge, so that, should the fillet slip off, it will not damage the side of the book. When tooling the head-cap, a dot can be put down in the centre, and then one or two on either side of this. When tooling these dots, only slight pressure must be used, as there is a danger of the dot slipping down the back.

The book should now be placed on the mitreing-block and the inside margin of leather polished. The polishing iron should be held with the right hand

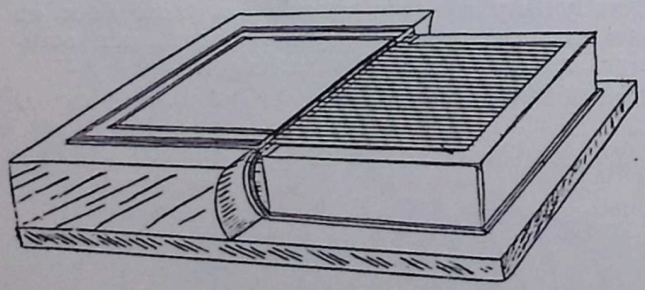


Fig. 93.

low down on the handle, the top of the handle resting on the shoulder. By this means considerable pressure can be applied, and the iron should be passed up and down the margin, care being taken to lift the iron off at each end of the stroke, for there is a danger of marking if the iron is stopped on the leather.

XXI.—Pasting down End Papers, Polishing, and Pressing.

THE pasting down of the end papers is the next process. The cap should be removed and replaced again, leaving the end papers out. The waste sheet is first torn out, and any pieces of it that remain in the joint must be removed with a knife. Care is necessary when doing this, for there is a danger of the knife slipping and cutting through the leather of the joint. The inside edge of the board should then be sandpapered or scraped with a knife, to remove any glue or paste that may have adhered. When doing this, it is best to have the book on the edge of a board, so that the cover can be held right back, as in Fig. 92. To enable the covers to open and close well, it is absolutely essential that the joint should be thoroughly cleaned out. The surface

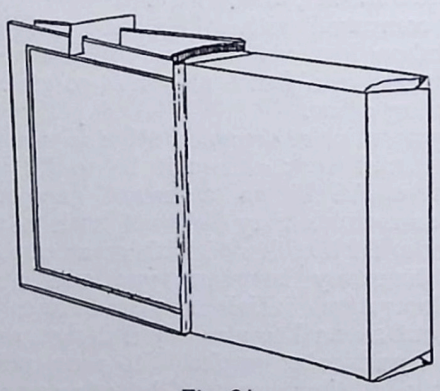


Fig. 94.

of the boards should now be lightly sandpapered (the finest quality being used) to remove any irregularities made by the interlacing of the slips; the end papers should then be trimmed out, so as to fit into the space left for them. It is not advisable to cut the end papers so that they exactly come up to the gold lines, for the paper, if stretching but slightly when pasted, would then cover the lines. With the dividers take the measurement of the margin that is to be left, measuring from the edge of the board to just beyond the inside line; then pull the paper over the board, creasing it down in the joint, and with the dividers mark off this measurement on the paper by making points near both ends of each margin. The paper is then laid back on the book, a tin placed underneath, and it is trimmed round with a knife guided by a straight-edge, cutting right through the points marked with the dividers, and leaving a small piece to cover the

joint, as shown in Fig. 93. A little more should be cut off the fore-edge, as the paper is more likely to stretch that way; it is enough if the points are just cut away. When both end papers have been trimmed, a piece of waste-paper should be put under one of them and the paper and joint well pasted. The finger should be passed along the

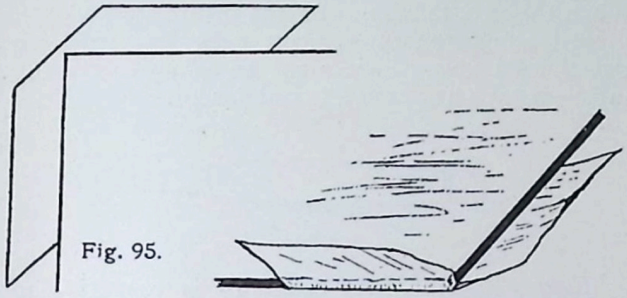


Fig. 95.

Fig. 96.

joint to remove any excessive paste, and the paper laid in its position on the board and rubbed well down with the folder. The joint must be well rubbed down with the first finger and thumb. All the rubbing must be done through a sheet of waste-paper, for the folder will make the paper shiny if it comes in direct contact with it. The paper must be pasted and laid down rapidly or it will stretch badly. Should this occur, it can be trimmed with a knife and a straight edge; the knife, however, must be very sharp and used lightly. Both end papers being pasted down, the

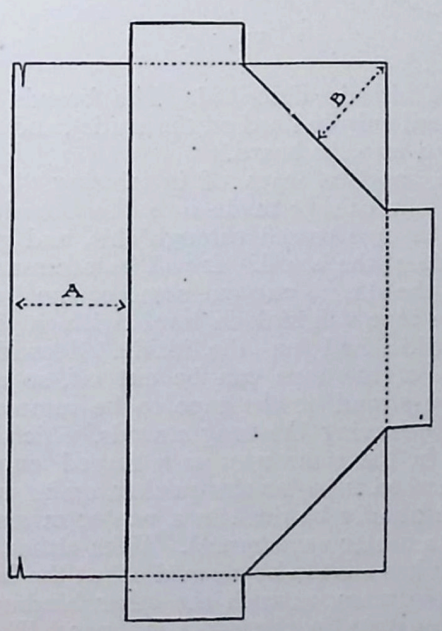


Fig. 97.

book should be stood up to dry with the boards fixed back together, as in Fig. 94, with a piece of straw-board. On no account must the boards be shut until the paper has stuck in the joint. The end papers should not be allowed to thoroughly dry with the book in this position, for it would then be difficult to get the boards to shut flat. After leaving the book for about an hour and a half, the joint should be again rubbed down and the boards half shut. Then, after an interval of a further half-hour, a tin covered with paper should be placed inside, the boards closed down, and the joints tapped lightly on the outside with a hammer.

The back and sides can now be polished; the back as described in Chapter XVI., and the sides by using the iron in the same manner as when polishing the inside margins. Care must be taken not to mark the cover with the edge of the iron.

If the leather is to be varnished, a little should be put on a piece of cotton-wool, which should then be rubbed on paper to remove any excess and to make it into a firm pad. The leather should be rubbed over with this, using a slight circular motion, getting over the cover as quickly as possible and seeing that no portion is left uncovered. Morocco leather is best left unvarnished, but with leathers that do not readily polish varnish is helpful. It also sharpens the colour of a dull leather, but it has two

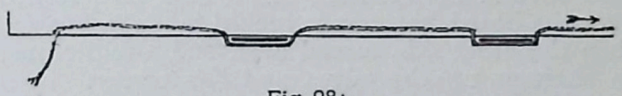


Fig. 98A.

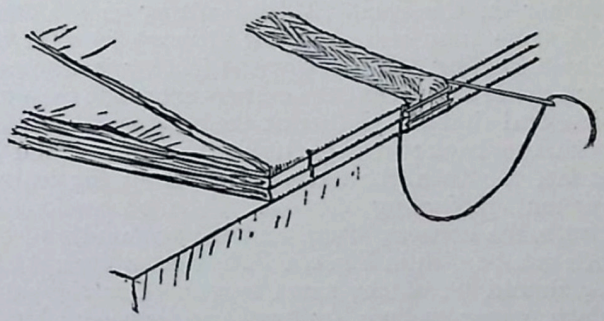


Fig. 98.

disadvantages. In the first place, when a book is once varnished it cannot be again polished with the iron. It can only be re-varnished, and an excess of varnish is not good for the leather. Secondly, the application of varnish is apt to dull the tooling. Varnish can be removed by washing with spirits of wine, but the gold tooling is often damaged in the process. The best French varnish should be used, and it is better to purchase it in small bottles, as if it is kept too long it is liable to get thick. To obtain a still better polish, each board should be pressed in the way described in Chapter XVI., a nickel plate being against the leather and a pad of paper underneath. The paper should have a smooth surface or it will dull the leather inside. Each board should remain in the press for about eight hours. If the leather has to be varnished, a better polish is obtained if each side is varnished just before pressing. When the pressing has been completed, a pair of tins covered with paper should be placed on the inside of the boards right up to the joints, and a pair of nickel plates or smooth surface boards outside, right over the joint, and the book lightly

pressed, remaining so until the boards close properly. On removing the book from the press the inside margins should be varnished. It is always advisable to varnish these, as it tends to prevent the leather from staining the end paper. Our book now being completed, we intend in our next chapters to describe a few variations of forwarding and finishing.

XXII.—Variations of Forwarding.

HALF-BINDING.—With half-binding the processes previous to covering are exactly the same as for whole binding. But in this case only the back, about one-third of the side, and the corners are covered with leather, and the remainder with a less expensive material. The corners are cut out to the shape given in Fig. 95, and the leather pared where it turns over the board. They are then pasted and placed on the corner of the board, as in Fig. 95, with the leather projecting about one-eighth of an inch beyond the corner. One side is then turned over the board, the corner tucked in, as in Fig. 96, then the other side turned over, and a folder used to sharpen up the edges and the corner. It is advisable to let the corners dry before putting the leather on the back. When putting on the back, the same processes are gone through as with the whole binding. When dry the leather is trimmed, care being taken that the corners are made the same size, and that the leather at the back is cut parallel with the back; a slightly slanting cut should be made, for then the sides can overlap the leather without projecting above it. The proportion between the corners, back, and the remainder of the side can be seen in Fig. 97. The dotted lines, A and B, should be of the same length. For the sides, cloth, paper, vellum, or forril can be used. If the leather is thick, the sides had better be lined with cartridge paper, so as to bring the other material up level with it. The sides are then cut out to the shape seen in Fig. 97. Glue should be used for putting on cloth or paper, and paste for vellum or forril. The inside margin should be trimmed out, the space between lined with cartridge paper, and then the end papers pasted down in the manner already described.

Sewing on Tapes.—This is done either when a less expensive binding is required or when a flat surface on the back of the book is necessary, as in the case when the book has to be covered with vellum or in similar material that is not pliable enough to be moulded into the shape of a back with raised bands.

It is a less expensive method of binding, because the sewing, backing, and covering are much quicker. Unbleached tapes should be used, and four only are necessary for most books. When marking up, two marks must be made for each tape. The tapes can be pinned round the top bar of the sewing frame and then fastened under the frame with the sewing keys.

If necessary, the sewing can be done without a frame, one end of the tape being held under the book and the other lying loosely over the section that is being sewn (Fig. 98).

The only difference between this sewing and sewing on cords is that, on coming to the tape, the thread is simply passed out and across the tape, not round it (Fig. 98A). When several books of the same size have to be sewn, they can be all marked up together, and then sewn, one on top of the other. When they are taken out of the frame they can be slipped along the tapes until each has sufficient tape for its slips. Care must be taken to see that sufficient tape has been allowed for all.

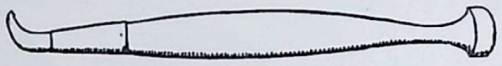


Fig. 99.

Library Binding.—As economy is essential for this class of binding, second quality mill-board and a machine-made paper can be used. The book is glued up, rounded, and backed in the same way as

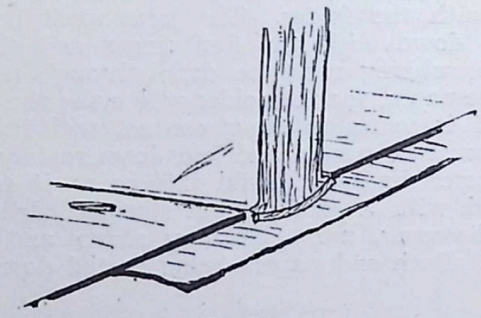


Fig. 100.

we have already described. The boards are cut (these need only be lined on the inside), and the slips interlaced into the board.

There are two ways of interlacing the tapes. First, a slit can be made into the board with a chisel, the tape passed through this, and glued on the inside of the board. It will be necessary, after making the slit, to cut out some of the board, so that the tape will sink in level with it both on the outside and on the inside. Secondly, the selvedge of the tape can be cut off, so enabling the cross strand of the tape to be removed with a bodkin, leaving the long strands, which can be treated in the same way as a frayed cord. The latter method is by far the quicker, quite as secure, and can usually be done in a neater manner (and present a neater appearance). With either method the book has next to be cleaned off at the back and put in the press, as with the other binding. The cutting is done in the same manner. The edges can be either gilt, coloured, or left plain. Marquo stains (made by Moeller & Condrup) are very good for colouring edges, and can be obtained in a variety of colours. The edge should be screwed up between cutting boards in the laying press, to prevent the stain from running in, and the stain applied with a flat brush or a piece of cotton wool. When the edge is dry it can be burnished with an agate tooth

burnisher (Fig. 99); as, when gilding, a little beeswax will help the burnishing. A piece of leather, which need not be pared very thin, as there are no high bands, can be pasted on to the back, coming over about an inch on to the side. In place of a headband, the leather can be turned over a piece of string, which will answer the same purpose (Fig. 100); or, if the price of binding will allow of it, headbanding can be done in the usual way. When the leather is dry it should be trimmed even on the side, and the remainder of the side covered with cloth or paper. If desired, a small leather or vellum corner can be put on to strengthen the corner.

Vellum Binding.—Up to covering, the processes are the same as for library binding. Then, as vellum is not a very flexible material, if it were attached directly on to the sections at the back, it would somewhat retard the opening of the book; so what is known as a hollow back must be made. The book is headbanded, and then a piece of good brown paper is required, a little longer than the

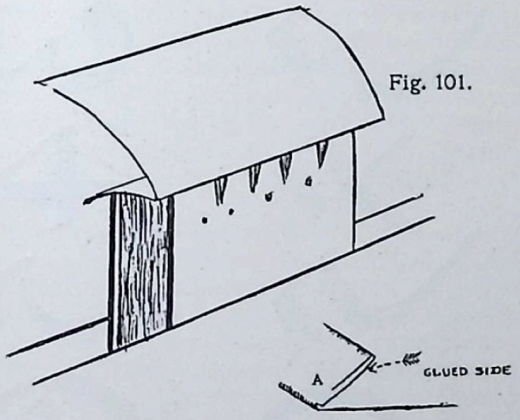


Fig. 101.

Fig. 102.

back and about five times as wide. A straight edge is cut, the back of the book glued, and this straight edge is put just up to one edge of the back. Then the paper is slightly rubbed down on the back and folded over at the other side, as in Fig. 101. The paper is now pulled off the back, folded as in Fig. 102, the back slightly glued again, and the paper put on, the side marked going against the back. Care must be taken to put the paper on level with the edge of the back. This process must be done quickly, and the glue must not be used too thick, or it will be difficult to remove the paper from the back to make the necessary fold. The remaining paper can now be folded back and cut off, and then cut level with the headband at the head and tail. As vellum is slightly transparent, it is advisable to line it with thin white paper before covering, to prevent any dirt that may happen to be on the boards from showing through. The lining paper should be pasted, and, to remove any brush marks, it should be laid against another paper and pulled away again. Then lay it on the vellum and give a slight nip in the press. The covering is done in the same way as in leather binding, and should take place when the vellum is still slightly damp. At the corners the vellum is cut as in Fig. 103; each side is then turned in, a cut made as on dotted line in Fig. 104, the vellum lifted up to remove the surplus piece, and laid down again, so mitreing the corner.

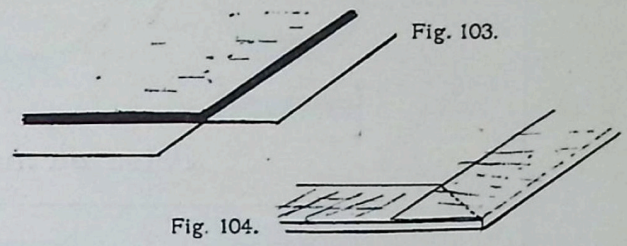


Fig. 103.

Fig. 104.

As vellum is apt to warp the board very much, it is advisable to line the inside with several pieces of thin paper, such as thin Whatman, each one being allowed to dry before the next is put on, rather than one thick one. When the board has drawn flat, the end papers are pasted down in the usual way.

(*To be continued.*)

WAX FOR MODELLING.

IN answer to "Craftsman" (Leeds), and many other correspondents.—Beeswax in itself will not do for modelling purposes. The ordinary modelling wax, for sale by dealers in artists' materials, is made in the proportion of 8 oz. yellow wax, 1 oz. Burgundy pitch or white (not spirits of) turpentine, and ½ oz. lard, melted with a low heat, so as not to bubble; the ingredients being well stirred in, and red lead, in powder, used to colour it. When perfectly mixed the wax is turned out on a slab to cool. There are, however, many other methods for its preparation. A good one is a combination of 1 lb. of yellow beeswax, 2 oz. Venetian turpentine, 2 oz. Burgundy pitch, 3 oz. starch, ½ oz. sweet oil, and 1½ oz. Venetian red, dry. The wax, turpentine, and pitch are melted together, and the colour, starch, and oil well stirred in, part of the oil being used to smear some platters in which to run the cakes and prevent the wax from adhering. Stir the mixture while pouring it into the plates, and allow it to become entirely cold before using. It should also be worked with the hands when required for use, to prevent any of the oil remaining on the surface. Another preparation is made of 1 lb. beeswax, 3 oz. Burgundy pitch, ½ oz. lard, and potato flour enough to prevent stickiness. An excellent recipe for fine modelling wax is the following: 5 oz. yellow wax, ½ oz. alkanet root, and 10 oz. spirits of turpentine, the alkanet being steeped in the turpentine for 10 minutes in an earthenware dish, the turpentine then squeezed through a cloth, and the wax left in it for twenty-four hours to dissolve, being occasionally stirred with a spatula.

1540

1571

1615

1761

dates on monuments etc of period indicated

1234567890

16th century

123456789

Brass 1597

12345678

Jewell's "Apologie" printed 1564

1234567890

Leybourn's "Dialling" printed 1700

ALPHABETS FOR ART WORKERS

NO. X. (From the Collection of Mr. GAWTHORP)

Kate Greenaway.

SELDOM has a biography been written with more sympathy than the volume on the life and work of Kate Greenaway by M. H. Spielmann and G. S. Layard, which has just been issued. It is truly a fitting memorial to the career of such a woman, and it is certain that this book will add to the already numerous circle of her admirers.

The mass of material has been carefully sorted, and presents such an interesting story that we were tempted to read it at a sitting. Somehow the book opened our eyes to many beauties in Kate Greenaway's work which, hitherto, we had passed almost unnoticed.

"About the name of Kate Greenaway," say the authors, "there floats a perfume so sweet and fragrant that even at the moment of her death we thought more of the artist we had admired than of the friend we had lost, recognising that her work was above all things sincere. All the sincerity and genuine effort seen in her drawings, all the modesty, harmony, and love, all the sense of beauty and of charm, all the daintiness of conception and realisation, the keen intelligence, the understanding of children, the feeling for landscape, and all the purity, simplicity, and grace of line—all these qualities, in short, which sing to us out of her bright and happy pages—were to be found in the personality of the artist herself.

"In order to judge of Kate Greenaway as an artist, and to appraise her true place and position in British art, we must bear in mind, not only what she did, but what she was. It must be remembered that she was a pioneer, an inventor, an innovator; and that, although she painted no great pictures, and challenged no comparison with those who labour in the more elevated plains of artistry, it is sufficient to place her high upon the roll. She must be judged, not by the dignity of her materials, or by the area of her canvas, but by the originality of her genius and by the strength and depth of the impression she has stamped on the mind and sentiment of the world. The truth is, her poetic emotion, and the imagination which so stirred the admiration of Ruskin and the rest, inspired her to express a most fanciful vision of the flowers and children and life which she saw around her. She gave us, not what she saw, but what she felt, even as she looked.

"Faults, no doubt, of a technical sort, Kate Greenaway shows in many of her drawings, and mannerisms at times betrayed her. She would exaggerate in her faces the pointed chin that was a charm of her model Gertie's face. She would draw eyes too far apart, yet how exquisitely those eyes were drawn, and how admirably placed within their sockets; perfect in accuracy of touch and delightful in their beauty. The knees of her girls are somewhat too low down, the draperies are often too little studied, and lack grace of line. Her babies' feet are at times too large, and are carelessly drawn—but what of that. Her faults are forgotten, or at least forgiven, in the presence of her refined line and fairy tinting, her profiles and full faces, all tender loveliness, and her figures of daintiest grace.

"She was undoubtedly influenced at times by Mrs. Allingham and Fred Walker, as well as by Ford Madox Brown. Traces are to be found, too, of G. D. Leslie, R.A., of Stotthard, of Downman, of Richard Doyle, and sometimes echoes of Stacey Marks, of Mason, and of Calvert. But what does it all amount to. Merely this, that when she wandered beyond the garden of that Greenaway land, which she had called into being, the artist

PENCIL STUDY FROM LIFE, BY KATE GREENAWAY.

(By permission of Messrs. A. & C. BLACK.)

was sometimes moved by the emotions with which she had been thrilled when in past years she gazed with enthusiasm on these men's work. Kate Greenaway is unfeignedly English. For that she is beloved in her own country, and appreciated and respected abroad."

Kate Greenaway was born at Hoxton in 1846. She was the daughter of John Greenaway, a

prominent wood engraver and draughtsman, whose work is to be found in the early volumes of the "Illustrated London News" and "Punch," and other publications of the day. At an early age it was found necessary, owing to the illness of her mother, to put little Kate out to nurse in the country at Rolleston; and here it was she gained the knowledge and love of flowers which were to last to her life's end. After a year or two at Rolleston, Kate was taken back to London. At the age of five she seems to have had a natural taste for drawing; but few of her early efforts have been preserved, for they were mostly executed on a slate. She was intensely interested in her father's work, and, fortunately, her parents were not blind to the promise of her early efforts. When twelve years of age, she went to an evening art class held at William Street, Clerkenwell, and soon showed such ability that she was promoted to the day class at Canonbury House, which was under the Science and Art Department.

So satisfactory and encouraging was Kate's progress that it was finally determined that she should make art her profession, and she forthwith joined the chief school of the Art Department. In 1861 she was awarded the bronze medal (local); in 1864 the "National," and in 1869 the silver (South Kensington). Here she worked for several years, and so industrious was she that at the same time she attended the Life Classes at Heatherley's, and, later on, the newly opened London Slade School, then in charge of Professor Legros and his assistants.

It has often been said of Kate Greenaway that she did not draw sufficiently from the nude. As a matter of fact, she executed a vast number of careful studies from the figure both at Heatherley's and at a studio which she occupied with Miss Elizabeth Thompson (afterwards Lady Butler)—who, like Miss Helen Paterson (Mrs. William Allingham), was her fellow student at South Kensington)—and at her death between fifty and a hundred were still in existence. By the time she was twenty-two she was exhibiting at the old Dudley Gallery. Then came a series of small pictures in water-colour at the same gallery. At the time of the first Black and White Exhibition (1868) at the Dudley Gallery, Mr. Loftie, who was editor of the "People's Magazine," purchased a frame of six drawings on wood which were priced at £2 2s. These he published in the magazine. About this time Messrs. Marcus Ward, of Belfast, consulted Mr. Loftie with regard to a scheme for issuing artistic Christmas cards and valentines in gold and colours, and Miss Greenaway was commissioned to do these.

FROM A PENCIL SKETCH BY KATE GREENAWAY, IN THE POSSESSION OF LADY PONTIFEX.

(By permission of Messrs. A. & C. BLACK.)

Her first great success was a valentine, and the firm is said to have sold upwards of 25,000 copies of it in a few weeks. Her share of profits was probably not more than £3. She painted many more on the same terms, that year and the next; but eventually severed her connection with the firm, owing to their refusal to return the drawings to her after reproduction.

Amongst the early and unsigned work done for Messrs. Kronheim, colour printers, may be mentioned "Diamonds and Toads,"

A PENCIL SKETCH BY KATE GREENAWAY, IN THE POSSESSION OF LADY PONTIFEX.

(By permission of Messrs. A. & C. BLACK.)

and also, in 1871, a series of "Nursery Toy Books" (published by Gall & Inglis).

Up to the year 1871, say the authors, it is not possible to be very precise as to Miss Greenaway's progress; but from that time onwards she kept systematic accounts. Besides the work done for Messrs. Kronheim, for which she was paid £36, we have the entry: "Happy Wretched Family," 10s.; "Tracts," £2 5s.; and commissions for a Mr. Sheers and a Mr. Griffith, £24 10s., the year's takings amounting to something over £70.

About this time she adopted the style of dress which she had seen as a child about the farm at Rolleston, where there was a survival of costumes which had long since disappeared from the towns and more progressive villages, and she soon discovered that she was creating a vogue. Notwithstanding some doubts thrown by her father upon her wisdom in proceeding upon these lines, she determined to persist, and events showed her instinct to be right. Fortunately, her friend Mr. Stacey Marks, R.A., gave her strong support, and, in the face of universal opposition, urged her to continue in the path on which she had entered. In 1873 she commenced her connection with Messrs. Cassell, Petter & Galpin. In 1874 her gross earnings were £120, and she was steadily progressing in public favour. In 1877 her earnings had reached £300, and, though fairly prosperous, the artist could not consider herself successful. She had appeared in the Royal Academy Exhibition, was a recognised contributor to the Dudley Gallery, and had more or less regular employment on the "Illustrated London News." These were encouraging results, but her name had not yet become known among the public. But all this was to be changed by a business arrangement with Mr. Edmund Evans, in which she was to take her full share of credit, as well as of the spoil.

Mr. Evans was a colour printer who excelled all others in the skill with which he produced his colour effects with a small number of printings. He had already published some toy books by Walter Crane and Randolph Caldecott, and, finally he turned his attention to Miss Kate Greenaway. She showed Mr. Evans a collection of about fifty drawings she had made, and he immediately purchased them, and they were published under the title of "Under the Window." Twenty thousand copies were printed of this book, which was published at six shillings, and the edition sold out immediately. Reprinting kept on until 70,000 was reached. Miss Greenaway was given one-third of the profit of this book.

From the moment that "Under the Window" became known, Kate Greenaway's name became a household word, not only in Great Britain, but on the Continent and in America. Now, too, she

KATE GREENAWAY IN HER STUDIO, 1895.

(From a private photograph by Mrs. WILLIAM MILLER, by permission of Messrs. A. & C. BLACK.)

began her connection with the Scribners, for whom she worked several years. From this time forward her accounts make very cheerful reading. In 1878 she earned nearly £550, in 1879 over £800, in 1880 rather more, and in 1881 over £1,500, the enormous rise being due to the accumulating royalties on the books engraved and printed by Mr. Evans, and published by G. Routledge & Sons.

At this time Randolph Caldecott, born in the same year as Kate Greenaway, was at once her competitor on the publishers' prospectuses, and her admiring friend and helpful comrade. A story is told of him that, one morning, staying with her in the same country house, he came down declaring that he had lost all power of working in his own style, and everything came out Kate Greenaways. He then produced the telling little skit on her manner, of which we give a reproduction on this page.

Kate Greenaway was now on the high-road to fame and success. In 1880 the "Birthday Book for Children" was published, and new terms were made with Mr. Evans. The artist was to have half the profits on this and all future books, and the original drawings were to be returned to her after they had been paid for and reproduced. The half-share royalty, however, only became payable after the expenses of publication had been cleared off.

Of this book 150,000 copies were placed on the market. For the 382 tiny drawings she received £151 10s., whilst the royalties exceeded £1,100.

In 1883 Kate Greenaway's first almanack appeared. It was published by G. Routledge & Sons, and printed by Mr. Edward Evans, price one shilling, and achieved an enormous success, some 90,000 copies being sold in England and abroad. It was succeeded by an almanack every year (with but one exception, 1896) until 1897.

There was now a Greenaway boom, just as we have since seen a "Trilby" boom, and manufacturers were everywhere copying her figures and naming their goods after her.

In 1889 she was elected a member of the Royal Institute of Painters in Water Colours, and in 1891, for the first time, held a "one-man" exhibition of her water-colour drawings at the gallery of the Fine Art Society. Others followed, in 1894 and 1898, and in 1902, a year after her death, and all were highly successful. In later years the demand for her work fell off considerably. Though her name was still one to conjure with, there is little doubt that her work was not as acceptable as it had been. Her reign had been a long one, and a new generation was knocking at the door. She writes thus of her failing grip upon the public taste:—

KATE GREENAWAY TO LADY MARIA PONSONBY.

April 22, 1897.

My mind is in a very perplexed state, and I feel very depressed also. I seem not to do things well, and whatever I do falls so flat. It is rather unhappy to feel that you have had your day. Yet if I had just enough money to live on I could be so very happy, painting just what I liked and no thought of profit. It's there comes the bother, but it's rather difficult to make enough money in a few years to last for your life. Yet now every one is so soon tired of things—that is what it comes to.

"When all Miss Greenaway's work is carefully judged, it will," think the authors, "be seen that it is with the point rather than with the brush that she touches her highest level, whether her manner be precise as in her book plates, or free, as in her sketches. The masterly pencil study of a baby toddling forward—swiftly drawn, loosely handled, instinct with life and character—is one of the best things, artistically considered, the artist ever did" (see page 203). The thumbnail sketches, too, in her letters to Ruskin, many of which are illustrated in this book—all drawn with the broad-nibbed quill—are done with consummate ease and masterly effect. These letters, by the way, constitute a large portion of the book, and the authors have also been able to include many of Ruskin's letters to Miss Kate Greenaway, which illustrate the close friendship existing between them. Needless to say, this volume is admirably illustrated by colour reproductions. We are becoming accustomed to expect these well-nigh perfect examples of three-colour work in the books issued from the house of Messrs. A. & C. Black. In this case the dainty colouring of Miss Greenaway's work has been preserved with all its freshness. Witness the three illustrations: "The Elf Ring," "Mary had a little Lamb," and "A Calm in a Teacup."—[London: Adam & Charles Black, Soho Square. Price 20s. net.]

SKIT IN THE KATE GREENAWAY MANNER · BY RANDOLPH CALDECOTT

(By permission of Messrs. A. & C. BLACK)

BANNER OF WHITE BROCADE, WITH ORPHREYS OF BLUE VELVET AND SHIELDS OF SILVER GREY.

EMBROIDERED BY MISS DIGBY.

The Robe is shaded from pink to deep crimson, the lining grey-blue; the Under-dress cream colour, shading into pale green.

HALF PANEL. CUT IN PINE.

May be treated as lower portion, or modelled as the upper part.

(From "WOOD-CARVING FOR CRAFT CLASSES." By courtesy of THE ARTS CO.)

"WOOD-CARVING FOR CRAFT CLASSES."

THE latest publication of the Arts Company is a portfolio of excellent examples of wood-carving. The illustrations are from actual carvings, many of them prepared as a course of lessons, and showing in many instances the actual tool marks. The series of twelve plates is graded from elementary exercises to advanced work, and should form a valuable addition to the wood-carver's library. The plates are beautifully printed, enabling the carver to accurately gauge the amount of relief. Useful notes and suggestions are given for drawing the examples, and also on the selection of suitable wood. The tools and their uses are described, as well as the methods of colouring and finishing carvings. [The Arts Co., The Ateliers, Derby. 3s. 6d. net.]

FORTHCOMING EXHIBITIONS. RECEIVING DAYS, &c.

A MEETING of the ROYAL SOCIETY OF BRITISH ARTISTS will be held on March 12 for the purpose of electing new members. The receiving day for the summer exhibition is March 13.

* * *

THE exhibition of the ROYAL SOCIETY OF PAINTER-ETCHERS was opened on February 26, and will continue for four weeks.

* * *

AN interesting exhibition will be held this month of the BELGIAN SCHOOL OF WATER-COLOUR PAINTERS at the Rowley Gallery, Silver Street, Kensington. Few opportunities have occurred of seeing in London the work of this school. Among the exhibitors will be Cassiers, H. Stacquet, Charlet, Uylterschant, P. Hermanns, Khnopff, and Nico Jungman.

* * *

THE ROYAL INSTITUTE OF PAINTERS IN WATER-COLOURS will hold their spring exhibition shortly. The receiving day is March 3, from ten o'clock till seven. This exhibition is open to outsiders, but the following regulations must be observed :—All pictures must be delivered at the galleries in Piccadilly free of expense, and must not be sent in packing-cases or by post. Only two pictures may be sent, and they should be framed close in gold. No black, white, or any colour is allowed in the frame or mount. Forms and labels can be obtained from the secretary, Mr. W. T. Blackmore, at the galleries in Piccadilly.

* * *

THE ROYAL ACADEMY will open this year on May 7. The receiving days for water-colours, miniatures, black-and-white drawings, engravings, and architectural drawings will be Friday, March 30, oil paintings on March 31 and April 2, sculpture on

END FOR A BOOK-RACK. CUT IN PINE.

(From "Wood-carving for Craft Classes." By courtesy of The Arts Co.)

April 3. All works must be delivered at the Burlington Gardens entrance between the hours of 7 a.m. and 10 p.m., and nobody may send in more than three works.

* * *

An exhibition of Modern Dutch Art is now open at the Fine Art Society's rooms. Among the artists contributing are A. Le Comte, C. Van Wijk, C. P. Gruppé, B. Schregel, W. Sluiter, H. J. Haverman, and F. Arntzenius.

* * *

The New Gallery.—Pictures, &c., intended for the New Gallery summer exhibition may be submitted to the directors on Friday, March 2, or Friday, March 9. Only two works may be submitted, and water-colours must be framed close or in gold mounts.

* * *

Sir William Richmond, R.A., will give a series of three addresses at the Royal Academy, the subject of which will be "The Evolution of Sculpture—Egypt and Greece." They will be delivered on March 1, 5, and 8.

* * *

In connection with the Seventh International Congress of Architects to be held in the Grafton Galleries, London, in July next, there will be a chronological exhibition of English architecture from the Norman Conquest to the death of Sir Charles Barry in 1860. In addition there will be shown a collection of oil paintings and water-colour drawings by known painters, which treat of architectural subjects. Many of these are scattered throughout the country in private collections. It is hoped that all those who know the whereabouts in private collections of any such paintings or drawings will communicate with the secretary of the executive committee, the Institute of British Architects, 9, Conduit Street, London. Such an exhibition of purely British work should be made as representative as possible in view of the forthcoming visit of our foreign confrères.

TECHNICAL INSTRUCTION.

The Association of Technical Institutions, of which Sir Philip Magnus is the president, has prepared a report of an inquiry as to the co-operation of employers and technical institutions for the technical education of apprentices, a question which is receiving great attention at the present time.

Answers to the form of inquiry were received from seventy-five institutions or firms. The question on the form asking whether the institution had approached neighbouring employers to secure their co-operation in the attendance of employees at classes was answered in the affirmative by 55 institutions, and in the negative by 12, eight giving no answer. In 40 institutions there exists some form of scheme of co-operation with employers which varies from an organised course of classes extending over two or three years, such as is given at Barrow-in-Furness, Battersea Polytechnic (London), and Bradford, to evening classes which apprentices are encouraged to join by such inducements on the part of employers as the payment of fees or the award of prizes.

Advantage was taken of the form of inquiry to ask for particulars as to the extent to which employers were favourable o admitting apprentices direct from school or after attendance at a technical institution, or the preference given by employers to students from the institution concerned in filling vacancies in their works, or the action of employers in encouraging their apprentices to join classes. Fourteen institutions reply that in their district the employers prefer boys straight from the elementary school; seven or eight state that employers prefer technically trained boys. Several replies note that employers are beginning to express their sense of the value of technical training for their workers. The replies from no fewer than forty-four institutions state that their evening classes receive support from the employers, while from seventeen institutions either no answer is given or it is unfavourable.

The form of inquiry also asked for information as to the representation of employers on committees of management of the institutions, and the replies show that in twenty-eight institutions employers of labour find a place on the governing body or committee of management, that in two others there is a slight but unofficial connection, and that with thirty-one institutions employers either have no connection whatever or the institution does not reply to the question. It is significant that in twenty-three of the institutions with the management of which employers are associated there exists some form of scheme for the technical instruction of apprentices and learners.

The unfavourable attitude of many foremen and leading hands is noted, with the comment:—"The older race of works managers and foremen have not been technically educated themselves, and do not appear to like the idea of the younger generation knowing more than they do. Hence it is not infrequent to hear from evening trade students that their foremen will not set them free from working overtime on their class nights, or even on the evenings of the annual examinations; and few things can be more discouraging to the ambitious junior. No doubt, with the spread of technical instruction and the increasing co-operation of employers who appreciate its usefulness, the foremen of the future will be men who have themselves profited by attendance at classes, and who, recognising their value, will be wise and liberal enough to wish to extend the same advantages to those who are to come after them. On the other side, there is no doubt much to be said for the employer and foreman's argument—that the classes are not sufficiently useful or practical, that the students attending them are a little too ready to regard their class instruction as an 'end' rather than as a 'means,' and not to realise sufficiently the fact that manufactories and works are commercial concerns in which 'time is money,' and where habits of discipline, punctuality, and hard work are of first importance."

This question of the co-operation of employers is the question of the hour in technical instruction, and the Council very fully endorses the expression in a recent memorandum of the Board of Education to its inspectors of technical institutions, that "unless this co-operation exists in some form or another neither employers nor employed will derive full advantage from the expenditure of national and local funds upon technical instruction."

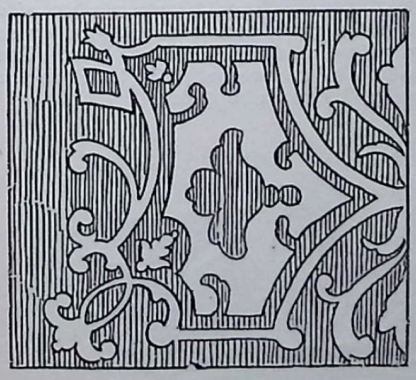
CELTIC ART.

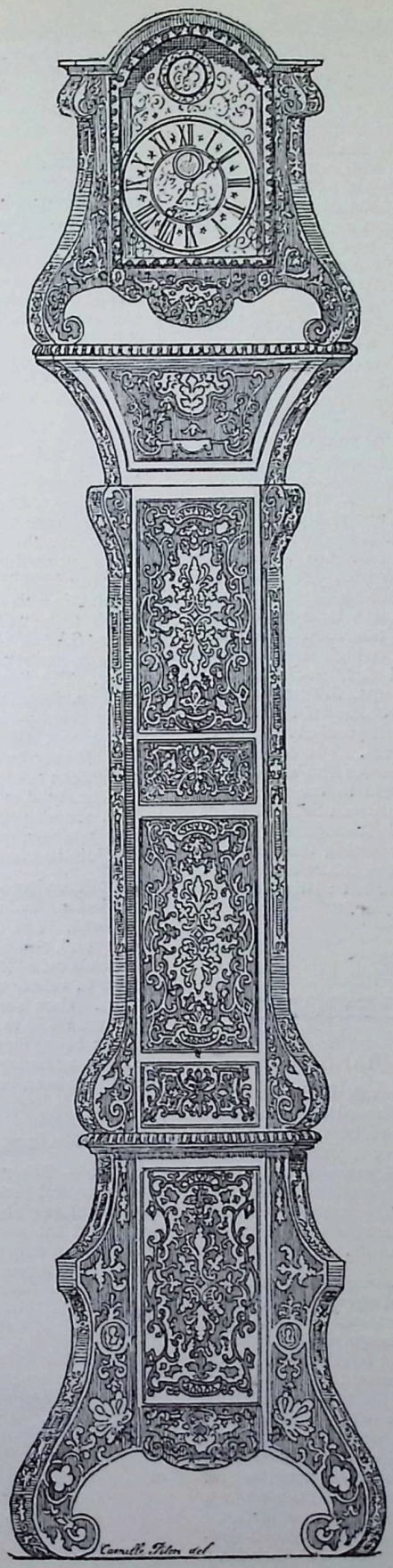
A spirited discussion took place recently at the Ulster Arts Club on Celtic Art. The President, Mr. W. S. Gilliland, F.R.I.B.A., spoke in a deprecatory manner on this subject and encountered a good deal of opposition.

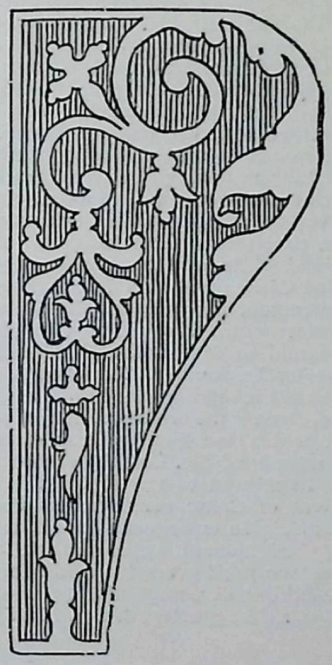
"No doubt the so-called Celtic movement," he said, "had fallen like a blight on design in Ireland, and had much to answer for in the decay of Art. When students took to the study of archaic forms in order to obtain inspiration of design, instead of going to nature, Art was bound to decay. That this had been encouraged in the School of Art was proved by its own prospectus. (Here Mr. Gilliland took up a copy of the prospectus and exhibited the Celtic design on the cover.) It was not necessary to go beyond the cover. Very ingenious—but was it true Art? He thought, however, that the fundamental law, the contravention of which rendered any art false, had been rather overlooked in that correspondence. All our intuitive ideas of beauty were derived from nature

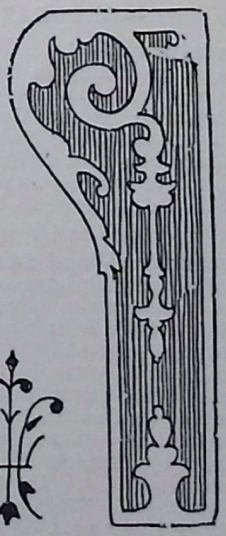
CLOCK AND PEDESTAL IN MARQUETRY

COPIED FROM AN OLD MODEL · WITH ENLARGED DETAILS









and natural forms, and Ruskin, he thought, very aptly described art as being man's expression of delight in the Creator's work. Now, did Celtic interlaced work fall within that category? No. It was man's expression of delight in his own work, and how much lower was the imitation of the coarse rugs and rush mats which barbarous man constructed to shelter him from the cold winds or partially clothe his body than those forms of other types based on the highest development of beauty in its natural form. They had had examples of this so-called renascent Celtic movement exhibited in that room, and to those who had an opportunity of seeing them he need not say that, with one or two exceptions, where the execution was by the master hand of one who had studied nature and not Celtic Art alone, they were dismal failures."

This discussion drew a great deal of attention, and the "Daily Northern Whig" (Belfast) has in its columns devoted a great deal of space during the last few weeks to letters on the subject. Mr. George Trobridge, in an interesting letter, says :—"But I should like to draw the attention of those who are interested in the subject to two examples which I have lately happened upon that go to prove my contention that the well-known interlacing ornament usually described as Celtic was not confined to Ireland, and therefore cannot be regarded as especially national. In the Linenhall Library to-day I came upon a book upon the early sculptured crosses, &c., in the diocese of Carlisle by the Rev. W. S. Calverley, which contains numerous illustrations of crosses of a precisely similar kind to many which are found in Ireland. The ornament in some cases is identical with so-called Celtic ornament, but in some others is more loosely constructed, and occasionally shows a tendency to a freer development. The other example to which I refer may be found in Mr. Lethaby's 'Mediæval Art,' published last year by Duckworth. On pp. 273 and 274, illustrations are given of the marble altar frontal of Coire Cathedral in Switzerland, some of the ornamentation of which is precisely similar to that which we find on Irish monuments. The concluding paragraph of Mr. Lethaby's book expresses the same idea that I ventured to put forward in regard to the attempted revival of Celtic ornament as the truly national style of Ireland. He is opposed to all revivals, though not to the study of ancient forms of art. 'Forgetting the past,' he says, 'we must press forward; for in the future are hid the possibilities of many mighty schools of art as true and as strong as the greatest of those that are gone.'"

TREATMENT OF DESIGNS.

No. 201.—DECORATION FOR PIANO FRONT.

Metalwork.—The repoussé worker will find some fine scope for modelling in this design. The panels should be taken separately, and, if used for piano, be framed up to match the woodwork. Unless the worker is well acquainted with figure modelling it will be advisable to model the panels full size in plasticine or clay, and make a cast from each. It will prove of great assistance in getting the drawing correct. A relief of a ¼ to ⅜ should be the limit, excessive relief being quite out of place in a decoration of this sort.

Decorative Wood Staining.—This original and striking design is especially intended for the front of an upright piano, to be executed in decorative wood-staining. No. 201A, on Supplement B, is a part of the design, and should be placed on the right-hand side of the other two figures. Little advice need be given to those who already have any knowledge of wood-staining, except to warn them of the necessity of keeping the flesh tones of the cupids pale. The outlines, where fine, can be drawn with a pen. A good effect would be obtained by inlaying the wings of the dragon-flies with mother of pearl, and the cymbals and trumpet could be laid with gold leaf. The design could readily be adapted to a variety of other uses. For instance, if the three discs be arranged is a triangular form, an excellent effect for a fire-screen will be obtained. Arranged one under the other, they would make a pretty wall hanging, after the style of the Japanese kakemono. Or they would serve as a frieze for a threefold screen, subjects in keeping with them to be, of course, chosen. Individual requirements for decorating the panels will doubtless suggest other ways of using them. The dragon-flies and other insects will be found very serviceable apart from the figures.

Embroidery.—Suitable materials on which the design may be worked are wool or silk tapestry canvas, uncut velvet, moleskin, bolting cloth, Roman satin, plain satin, and Chinese silk. The material, of course, gives the background colour; but the discs may be tinted and outlined with gold paint—or, much better, gold thread. A combination of flat tinting and embroidery would, perhaps, be the most suitable method of treatment, except in the case of wool tapestry being used. For tapestry canvas, whether wool or silk, it will be best to use tapestry dyes; but for the other materials mentioned either oils or water colours may be used. It would enhance the effect to touch up the flies, musical instruments, and wings with coloured bronzes.

No. 208.—TREATMENT FOR BELLOWS.

Metalwork.—This design is very suitable for repoussé in low relief. There are two very suitable methods of working it up, either metal appliqué over a wooden base, or by working on a thin metal and nailing on to sides of wooden base. Both methods are worked in the same way, but in the former the ground work is cut away with a metal frame saw: the metal in this case should be about 22 S.W.G., but if the metal is to be nailed on the side it may be much thinner, about 25 S.W.G. The relief should not be more than ⅛-in. at any place, and great care should be taken to show the overlapping. The lines should all be slightly undercut. Soft sheet iron, about 26 gauge, would have a fine effect, giving a relief of about 3-16ths at the highest parts. The worker will find the most difficult part will be attaching the metal to the wood. It may be cut off to the shape, and screw on from the front, but the neatest and most workmanlike will be to nail or screw the metal to the sides. The metal must be coaxed over with a wooden mallet, and gradually beaten down to its proper position, nailing or screwing gradually as each part comes into its place.

Woodcarving.—This design offers some good practice in low relief modelling to the carver, and will not be found at all difficult. The outlining should be carefully done with a parting tool, and the ground taken out to about ⅛ in. in depth. The heads being the centre of the ornament should be the highest in relief, the remaining ornamentation being about 1-16 in. Care should be taken to avoid sharp projections, which are liable to be broken off. A suitable wood to use is walnut; being dark, it is not likely to get soiled, and it has the great advantage of neither shrinking or twisting when once it has been properly seasoned.

No. 209.—DESIGNS FOR FRAME.

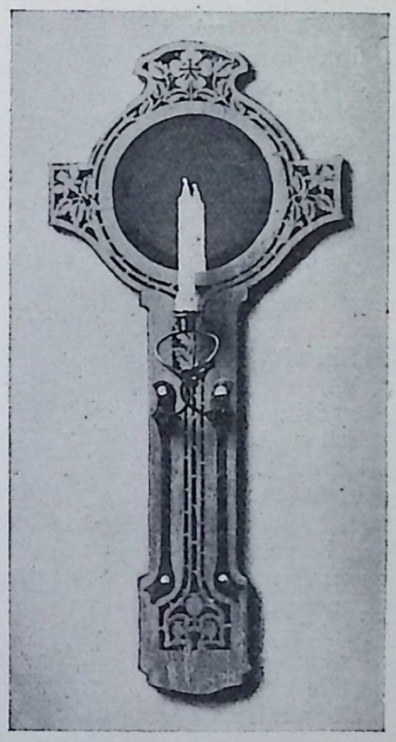
Gesso.—Either of these designs will afford the gesso worker capital practice. A frame should be made up of a sunk moulding about 1¾ in. wide, recess about ⅛ in. or so deep, and the gesso placed directly in this hollow. The width of top may have to be reduced slightly to fit in the space. The frame could afterwards be gilded.

TAIL-PIECE, BY E. JOHNS.

GOOD FRETWORK DESIGNS.

We are delighted to see that at last an attempt is being made to supply fretworkers with good designs. Hitherto we are convinced that many people who would have been tempted to take up fretwork have been deterred from doing so by the want of designs which would satisfy anyone with the slightest knowledge of the principles of ornament.

The usual florid fretwork designs may supply interesting technical difficulties to the worker, but the finished article would be an impossibility for any well-designed and simply furnished house. However, publishers of fretwork designs are not of our way of thinking. We have been repeatedly told that good simple designs are not appreciated, and that fretworkers prefer to continue on the old lines. Nevertheless, we welcome the two designs for sconces (reproductions of which appear on this page) just issued by Messrs. Harger Bros., of Settle, Yorks. We have seen both these carried out, and they look well. They could be worked equally well in either metal or wood, and Messrs. Harger supply full-sized designs and all the fittings for the candle holders if required.



SCONCE DESIGNS FOR FRETWORK

(By permission of Messrs. Harger Brothers)

CORRESPONDENCE.

These columns are free to all. It is only required that (1) questions dealing with different topics be written on separate sheets of paper with the writer's name and address on the back of each, and that (2) stamps accompany all pictures, drawings, prints, &c., to be returned. All correspondence should be addressed to the Editor of Arts & Crafts, *37 & 38, Strand, London.*

REPLIES TO CORRESPONDENTS.

Miss A., of Troon, N.B., writes to ask what a "scroll saw" is. This is with reference to the article on "Pierced Carving," in the February issue.

A scroll saw is similar to a fret saw, but has a larger blade Names vary with localities; sometimes this saw is known as a "bow saw," because of its shape. We may remark that a fine "keyhole saw" can be used to cut the panel described, if a "scroll saw" cannot be easily obtained. These are stocked by most tool dealers.

E. B., of Belfast, wishes to know:—(1) Why a "feather edge," or a "wire edge," is formed on the edges of tools when they are being sharpened? (2) What is the difference between an "Arkansas" stone and a "Washita" stone in their effects? (3) What kind of leather, if any particular kind, is used in the making of "strops," and the kind of emery used?

These questions refer to the article on "Sharpening of Tools," in the January issue. (1) The "feather edge" is formed as a result of the application of the oilstone and slips. These, by wearing away each side of the tool, produce two planes that meet at a point, which is the edge of the tool. But, to use an "Irishism," they do not, in all cases, exactly meet in the same plane; and the result is the "feather edge." A little friction is quite sufficient to knock this off, thus leaving the real cutting edge exposed and ready for work. (2) The "Washita" stones are somewhat coarser in composition than the "Arkansas." They cannot, therefore, be obtained with an edge fine enough to sharpen V tools and veiners. They wear away the steel more quickly than the "Arkansas" stones do, and the stones themselves are worn away much more quickly. (3) The leather used is any ordinary leather, not too hard; the leather used for making harness straps is excellent for the purpose. The emery used is the kind known as "emery flour." Ask for "flour," not "powder." This "flour" is an exceedingly fine variety of emery.

The conclusion of our illustrated article on the Arts and Crafts Exhibition is unavoidably held over until next month.

The Editor's Note Book.

DURING the present session of the Chelsea Art School a course of lectures is being given by Mr. William Orpen on the anatomy of the human figure in relation to art. A model is present at each lecture, and the movement of bones and action of the muscles fully demonstrated. The class, which is open to both sexes, is held every Thursday.

* * *

MR. SOLOMON J. SOLOMON, the newly elected Royal Academician, was born in Southwark in 1860, and studied art in the first instance at Heatherley's school in Newman Street, whence he passed into the schools of the Royal Academy. He left the Academy schools long before his term of studentship was over, for the purpose of studying in Paris under Cabanel. To Cabanel he returned later, after a brief period of work at Munich, and it was during his second stay in Paris that he painted "The Convalescent," a picture whose brilliant technical accomplishment attracted the attention of every artist who saw it at the first exhibition of the Institute of Oils in 1883. Three years later the "Cassandra" was one of the most striking pictures of the Royal Academy of 1886, and in 1887 the young artist followed up this success by showing the vigorous, daring "Samson," which was purchased by Liverpool for the Walker Art Gallery. The "Niobe," the "Judgment of Paris," and the "Laus Deo" will be remembered among the many large subject pictures painted by Mr. Solomon, but none has been more completely successful than the remarkable "Allegory" that was the artist's principal contribution to the Academy of 1904. He is responsible also for one of the best of the colossal wall-paintings that decorate the Royal Exchange.

* * *

THE two new ordinary Associates are Messrs. Edward Stott, Frederick W. Pomeroy, and Engraver-Associates Messrs. Frank Short and William Strang.

* * *

MR. EDWARD STOTT, A.R.A., one of the most poetic of the modern British painters of pastorals, is a Lancashire man and the son of a cotton spinner. Mr. Stott was in business for some years before the opportunity came to him of studying in Paris under Carolus-Duran and Cabanel. He was one of the earliest members of the New English Art Club, and was at one time a constant contributor to that society's exhibitions. However, Mr. Stott long ago severed his connection with the club, and has remained until now unattached to any body of artists except the Pastel Society. Mr. Stott's influence upon the younger generation of artists has been great, and since he settled at Amberley, numbers of students have made their way to the beautiful old Sussex village in the vain hope of acquiring the mysterious charm that distinguishes the pastorals of the founder of what has come to be known as the Amberley school.

* * *

MR. FREDERICK WILLIAM POMEROY, A.R.A., was a Lambeth student, and afterwards worked in the schools of the Royal Academy in company with the late Harry Bates, A.R.A., and Mr. G. Frampton, R.A., among others. Mr. Pomeroy won the Gold Medal and Travelling Studentship of the Royal Academy in 1885 with a model of "Mercy Pleading for the Vanquished." Among his chief works are the "Perseus as a Symbol of the Subduing and Resisting of Evil," shown at the Academy of 1898, the centenary statue of Burns for Paisley, the "Boy Piping," a statue of Mr. Gladstone, a bronze statuette of a kneeling girl, "Love the Conqueror" (purchased by the Liverpool Corporation, and now at the Walker Art Gallery), and the admirable recumbent nude, "The Nymph of Loch Awe," now at the Tate Gallery, which was purchased by the Chantrey Trustees in 1897. He gained medals at Chicago in 1893 and at Paris in 1900.

* * *

MR. FRANK SHORT, A.R.A., was originally trained as an engineer. Mr. Short did not commence to study at South Kensington until he was well on in the twenties. Later he worked for a time under Professor Fred Brown at Westminster, and returned again to South Kensington as a director of the etching and engraving school at the Royal College of Art. Mr. Short has gained distinction equally as an etcher and a mezzotinter. His etchings were shown chiefly at the exhibitions of the Royal Society of Painter-Etchers. His mezzotints include prints after Turner, Watts, Girtin, Whistler, Hoppner, and Cox. At Paris in 1889 he received a gold medal for engraving, and at the Chicago Exhibition he was one of the jury in the engraving section. A second gold medal was awarded to Mr. Short at the Paris Exhibition of 1900 for his engravings of Watts's "Diana and Endymion," and two pictures by Turner.

* * *

MR. WILLIAM STRANG, the second of the new Engraver-Associates, was born at Dumbarton, and was for a time a clerk. He left Glasgow and came up to London to study at the Slade School, where he won several prizes and medals. Mr. Strang is almost as well known as a painter as an etcher. In etching he has shown great powers of invention, although they are sometimes very grim. He has been a frequent exhibitor at the New English Art Club.

THE EDITOR.

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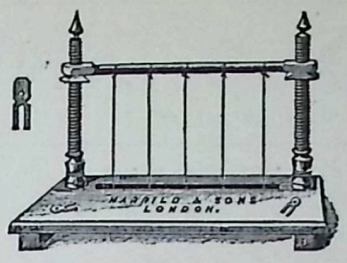

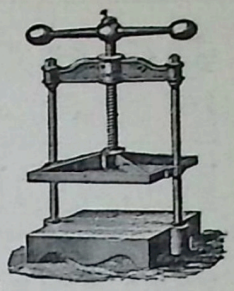

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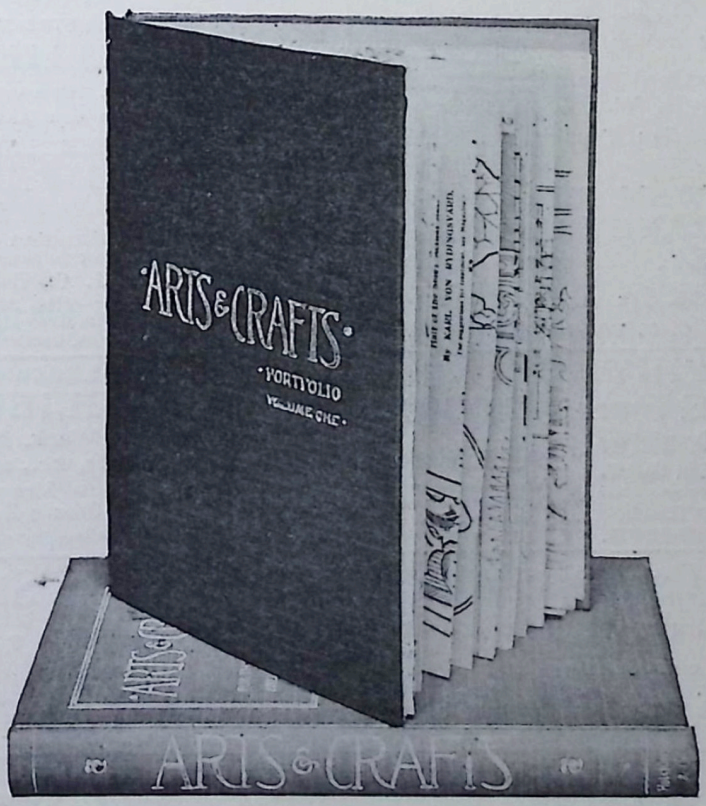

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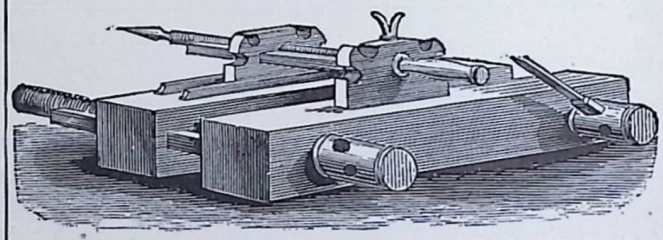

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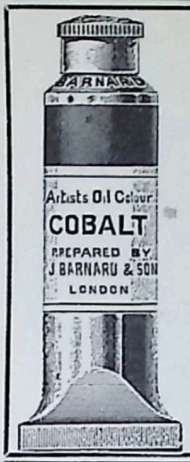

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CRAYON PORTRAIT STUDY
BY L. HOROWITZ

Flower Painting in Water-colours.

COLOURS AND COMBINATIONS.

WATER colours can be bought in tubes, in whole cakes or half-cakes, in pans or in half-pans. These last are called moist colours, and only require a wet brush to rub off easily. The hard cakes must be ground upon a plate or palette. If your colours are moist, which is decidedly to be recommended, take off the tinfoil and the layer of paper from the pan, and write the name on the bottom in ink, lest you forget it before you become familiar with the colour.

The principal colours for flower painting are :—

Gamboge,	Rose madder,
Yellow ochre,	Carmine,
Indian yellow,	Crimson lake,
Burnt sienna,	New blue,
Vandyck brown	Antwerp blue,
White (in tube),	Black,
Vermilion,	Light red.

These fourteen colours, when combined, give very good effects. There are others that would do even the beginner good service. There are greens already made, and purples. Hooker's Green, No. 1., is especially good.

Here is another list which can be added to the first, but is not intended to supersede it. All the colours are valuable, and greater breadth can be reached with them :—

Blue black,	Cadmium,
Aureolin,	Lemon yellow,
Raw umber,	Raw sienna,
Burnt umber,	Hooker's green, No. 1,
Brown pink,	Mauve,
Terre verte,	Brown madder,
Sap green,	Cobalt.

If rose madder is too expensive, use a thin wash of crimson lake.

New blue or cobalt combined with rose madder or crimson lake makes a delicate lilac. Mauve in thin washes gives a lilac also, but it is generally too blue, and requires pink with it. Mauve with carmine or crimson lake or brown madder gives a royal purple. But mauve must be carefully handled. It is an aniline colour, and no amount of washing will erase if from the paper ; therefore, use it thinly. (It being fugitive—*we* should say, do not use it at all. ED. A. & C.)

Carmine and vandyck brown give a rich dark red for shading red flowers. The effect is the same as brown madder.

Antwerp blue, new blue, and cobalt mixed with gamboge, Indian yellow, yellow ochre, burnt sienna, vandyck brown, aureolin, raw umber, brown pink, raw sienna, and lemon yellow make all shades of green for foliage in landscapes or leaves for flowers. Hooker's green, No. 1, combined with all the light yellows, is useful for delicate greens.

Burnt sienna is a warm red brown, good for shading yellows. Combined with blue makes grey.

Vermilion is a bright scarlet. Mixed with carmine makes a deeper and more brilliant red.

Light red shaded with vandyck brown for bricks and tiles. This colour is invaluable for greys in foliage as well as flowers.

Gamboge is a delicate greenish yellow. Combines with blues, or browns, or reds.

Yellow ochre is a dull yellow, especially good for greys or for greens in foregrounds.

Indian yellow is a brilliant colour. Combines with blues for greens ; lights up browns and reds.

Lemon yellow is a pale yellow for delicate flowers, and with black shades them.

Raw sienna is much like Indian yellow, though not so bright. Combines in the same way.

Vandyck brown is a rich warm brown. With Antwerp blue makes a deep green.

Aureolin is a brilliant yellow of greenish tone.

Terre verte is a grey green, especially valuable for distances, or the under sides of leaves.

Sap green is a warm, rich colour.

Brown pink is a transparent bright greenish yellow, excellent for washing over greens that are too blue ; by the addition of burnt sienna, gamboge, or crimson lake gives good foreground foliage.

Burnt umber and raw umber are good in foliage and in greys.

Cadmium is a brilliant orange ; with vermilion makes orange red. When added to your list of colours you will wonder you have been without it. It is not mentioned in the first list because it is expensive, and nearly the same effect can be gained with vermilion and gamboge or Indian yellow.

A good olive green can be made with Antwerp blue, gamboge, and vermilion ; and olive brown with gamboge and vandyck brown.

There are several colours which, combined, make greys for backgrounds ; for instance :—

Brown madder, new blue, and any of the yellows ; burnt sienna and Antwerp blue, yellow ochre, light red, and new blue ; vandyck brown and new blue, light red, new blue, and gamboge ; yellow ochre, rose madder, and cobalt ; brown madder and cobalt. These combinations are not, however, delicate enough for shading flowers. Yellow flowers, if very light coloured, can be shaded with lemon yellow and black. If dark yellow, with vermilion, gamboge, Indian yellow, light red, and raw sienna.

Greys for pink flowers can be made of rose madder and black, or crimson lake and black, or rose madder and emerald green. (Emerald green has not before been mentioned. It is not a necessary colour, though much used by the French artists, especially in decorative work.)

Blue flowers can be shaded with any other blue than the lightest tint on the flowers, a little rose madder and black added.

Lilac or purple flowers, shaded with self-colour mauve, crimson lake, carmine, new blue, and black added.

A very delicate grey can be made with yellow ochre, light red, and new blue; or with aureolin, cobalt, and rose madder. Either of these are excellent for white flowers. Allow the yellows to predominate in the shading of white flowers. The tendency is to make them too cold.

Preparation for Work.

If the sheet paper is used, and you have drawing-pins, fasten it at the four corners of the drawing-board, after cutting to the size desired; or the paper can be gummed at the extreme edge of the board. In this case, cut the paper 1 in. larger all round than the drawing to be made. Gum the extreme edge only. Wet the whole surface of the paper with a clean rag after it is gummed to the board. Wait until it is dry, and it will be perfectly smooth. If it is smooth without the water, there is no need of applying it. If you use a sketching block, hold it in position on your knee if large enough, leaning against the table at one end; if not, fasten on your drawing-board.

Be seated so that the light will fall over your left shoulder, from one window only. If there are other windows in the room, darken them. If you can close the lower part and receive the light from the upper panes, your shadows will be clearer and deeper.

Place two bowls of clean water at your right hand, your colours, sponge, blotting-paper, and piece of moist bread also; your brushes and a fine-pointed pencil within reach.

A china plate makes a very good palette. If the colour is hard, wet the end, and rub off the colour on the palette. Put as many colours on the palette as you expect to use. A little will answer of some kinds, but more of those that are used the most. If the colours are moist, in pans, a wet brush will remove as much as you require. The object in putting a portion of colour on the palette is, that by doing so you can vary the tint as often as you choose. This is especially valuable to beginners, who, by adopting this plan, will soon know the various shades of colour produced by combinations. It will only be by practice and careful observation that you will notice the beauties of light and shade. But you will be surprised to find how rapidly your eye will become educated to detect even the delicate shades upon a white flower.

The simplest thing you can paint is a single flower. Having placed one in as natural a position as possible draw the outline with care. Indicate the various folds with light lines, but do not shade them with the pencil. The ability to do this will come much sooner with practice than most persons suppose. The most accurate imitation in drawing, as well as colour, is the first thing to be gained. "We must be able to put everything we see in nature into a picture before we venture to leave anything out," one writer says. It is best in colouring from nature never to draw more than can be finished at one sitting; because flowers, even in water, fade very soon. When gathering wild flowers to paint, carry with you to the fields a small bottle filled with water, and place the flowers in it immediately. This is the best way to preserve flowers at all times, if you intend to copy them. The heat of the hand is sure to wilt them; while the neck of the bottle clasps, it does not crowd them. The narrow-mouthed vial is also excellent to hold the flower to be painted. Having learned how to paint one flower or leaf, you can add a second or third, still in the vial, for you will thus get a freer, more natural bouquet.

Methods of Work.

Having drawn the outline of the flower to be painted, select from your palette the lightest tint of colour to be used. Wet the brush slightly, and take enough paint upon it to spread over the whole flower, beginning at the upper left-hand corner, moving the brush towards the centre. Do not in any case turn your paper to accommodate your stroke—rather move your hand to accomplish this. Beginners generally use all the colour in the brush at one stroke. In so doing, by taking a fresh brushful a decided line of a darker tint is left on the drawing. Nothing can change this, if allowed to dry. Should this mistake be made while the drawing is wet, fill the brush with water enough to flow over the whole surface, and the paint already on the paper will flow evenly over the part. Fresh colour must be taken frequently, so that no difference in the first tint is perceived. When this first wash is dry, it can receive any number of tints desired.

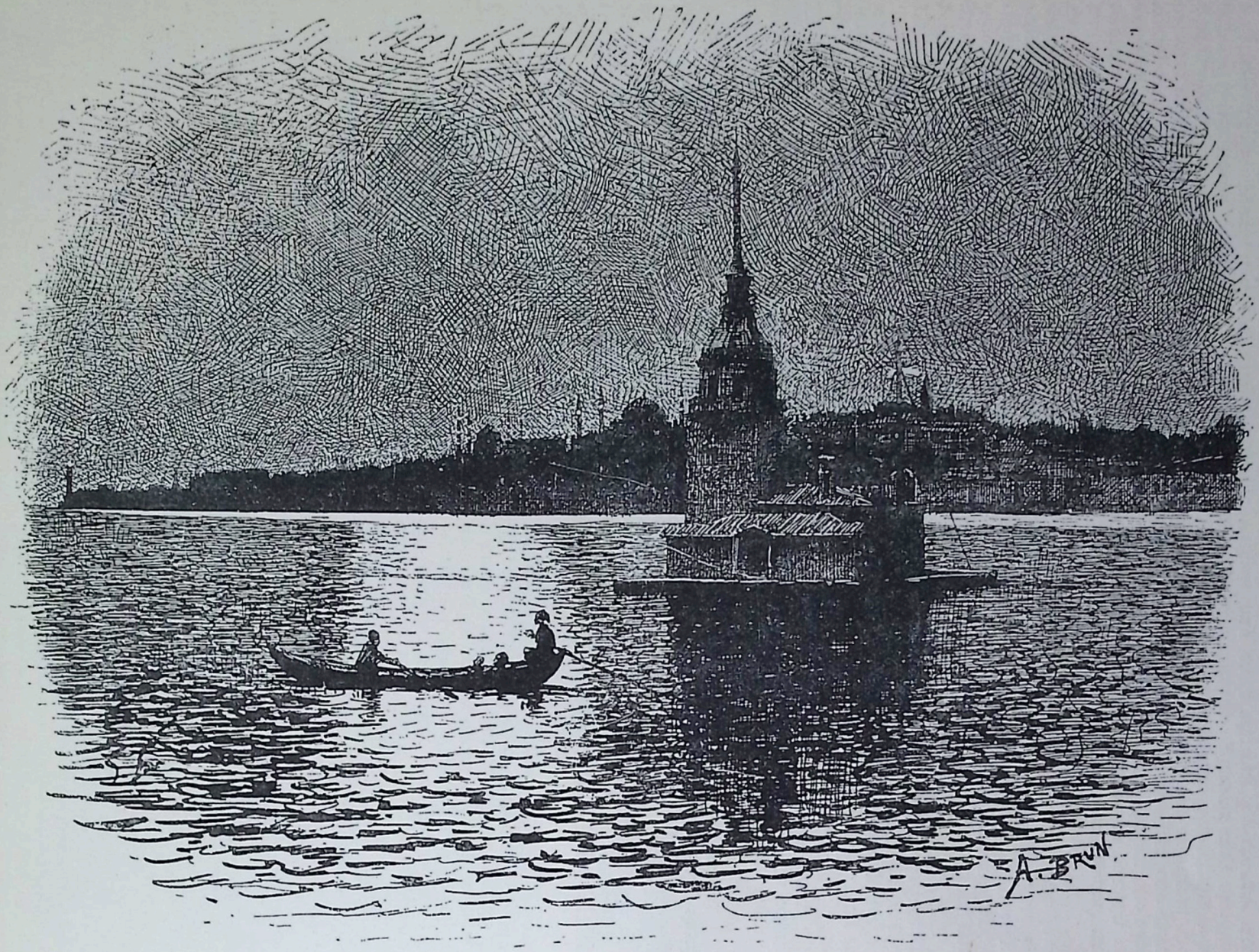
Shadows seem to be so blended with the colour of the flower as to be insensibly lost. To produce this effect, after shading, while still wet, wash the whole flower, shadow and all, with a very little of the clean water.

The darkest shadows can then be worked up when the painting is perfectly dry. After it has dried over night you will be surprised to find your painting look faded. It, however, only requires the shadows strengthened or deepened. Remember, *you cannot make a darker tint lighter* except by the addition of white, and then it will have lost its beauty. As soon as you put white with any colour you destroy the transparency which is the chief charm of water-colour painting. On *tinted* paper, the addition of white with all the colours used is absolutely necessary to cover the colour of the paper. But we are talking now of white paper.

Do not allow the paints to run together on the plate. The delicate tints of flowers can be ruined by a little of any other colour. In mixing two or three colours, take a fresh place on the palette or another plate for the purpose.

In painting white flowers wash in the shadows, leaving the paper for the high lights or lightest parts.

Let the strokes of your brush in a flower be towards its centre; in a leaf follow the veining from the centre of the leaf toward the side; but never make a decided regular veining, or you will have a good



THE GOLDEN HORN
PEN DRAWING BY A· BRUN

copy of a poor chromo card. Do not make a decided stroke to represent the veins; rather produce this by the shading. In very marked leaves let the first tint be the vein in the centre, and shade from it. *But if you are far enough from your copy, you will not see many veins.* Half close your eyes, notice the shading in your leaf, and try to copy it exactly. Leaves are more difficult than flowers, and require careful study.

When your painting is nearly finished, rise, and, making a funnel with both hands, look through with one or both eyes. In this way you shut out other objects in the room, and you will find that you will be able to judge of the colours of your flowers much better.

Painting Moonlight Effects.

THERE is more colour and variety to be observed in moonlight than one who has not made a special study of the subject would believe possible. The conventional idea of moonlight, as represented by the ambitious amateur, is generally a monochromous effect of black and white, which, combined in various proportions, results in a gamut of greys, the scale being sometimes diversified by the introduction of a certain element of indigo blue. Both the grey and blue schemes show good intention, both indicate an effort toward the representation of moonlight as it is supposed to appear, and yet both are wrong. Moonlight is not synonymous with monochrome, for the landscape seen by moonlight is at times full of colour—colour that is far removed from the strong, insistent chromatic scale of sunlight, but yet is distinctly *colour;* faint, mysterious suggestions of tints the daylight never shows will clothe familiar forms. Flowers, foliage—everything in nature seems to assume a different personality, as it were, in this light, by which the turbid waters of a mill-pond are turned to silver, and hard, unbeautiful angles of rock are hidden in picturesque shadow. And thus we come to the heart of the subject: a picture of moonlight should not be merely a transcription of objects seen by the light of the moon; for, no matter how correctly the forms are drawn and the sharp effects of light and shade rendered, if this be all, any photographer can do as much! A painter must give us more; he must, with his art, appeal to the imagination of the beholder through realism, but not by it; he must appreciate the sentiment of his subject while avoiding a sentimental presentation of it. The young artist who learns to guide his brush safely between this Scylla and Charybdis of extremes may fairly hope to some day join the ranks of the few successful painters of moonlight.

In regard to the practical side of this subject, it may be said that the principal faculties exercised in this special branch of painting are *observation* and *memory* (apart from the ever indispensable technical skill); for it is indisputably true that all painters of moonlight are necessarily more or less *impressionists*, although before the advent of Cazin, Monet, and Besnard, perhaps we did not realise it. That there is no such thing as a direct colour transcript from nature of this most elusive theme is a self-evident fact. It is suggested in this connection that the following plan will afford excellent practice for the student who, undeterred by difficulties, determines to devote himself to this study. Having selected the scene of his sketch by *daylight*, with the proper effect of light and shade, a careful drawing of the composition is made in charcoal, upon a canvas, followed by a broad, simple painting suggesting the general effect of colour throughout. Armed with this preparation, which has familiarised him with the natural coloration of the objects as seen by sunlight, the artist approaches later the same subject shown by the colder light of the moon, but with a predisposition to look for colour wherever he may find it beneath the transmuting silvery rays. Knowing thus just where it is, his brush will feel its influence, and in his picture he will give us a view of nature not barren and robbed of colour, but rich in suggestion, while all crudeness is subdued and etherealized by the refining influence of moonlight.

HINTS ON HANGING PICTURES.

BY hanging pictures low you increase the apparent height of a room.

* * *

THE centre of the picture, as a rule, should not be much above the level of the eye.

* * *

THE wall paper should have no strongly defined pattern, and should be of one uniform colour, such as red inclining to crimson or tea green.

* * *

COLOURED pictures should not be hung in hallways or on staircases unless there is plenty of light for them. In such places strong photographs, engravings, and drawings in black and white go best.

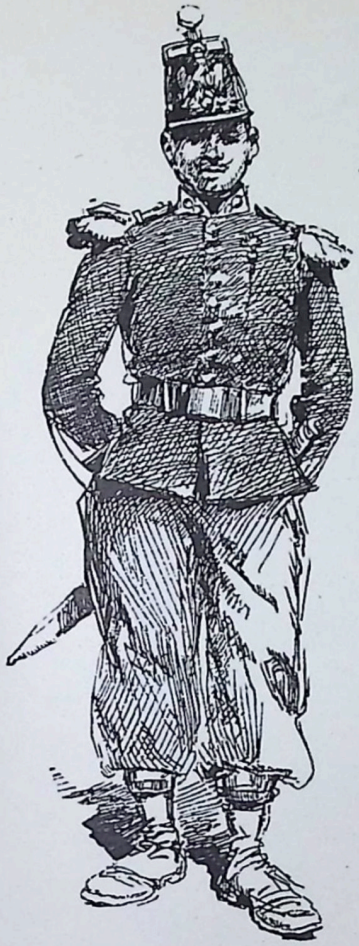
* * *

A PICTURE should not be hung from one nail. The diagonal lines formed by the cord have a very discordant effect. Two nails and two vertical cords, or, what is far more safe, pieces of wire cordage, should be used instead of the single cord.

* * *

PICTURE-CORDS should be as near the colour of the wall upon which they are put as possible, so that they may be but little seen. When one picture is hung beneath another, the bottom one should be hung from the one above, and not from the top; we thus avoid multiplying the cords, which is always objectionable. Pictures may also be hung without any cords showing by crossing the cord through the rings at the back of the picture, and looping this into a nail or hook; neither cord or hook will then be seen.

PEN STUDIES BY DETAILLE



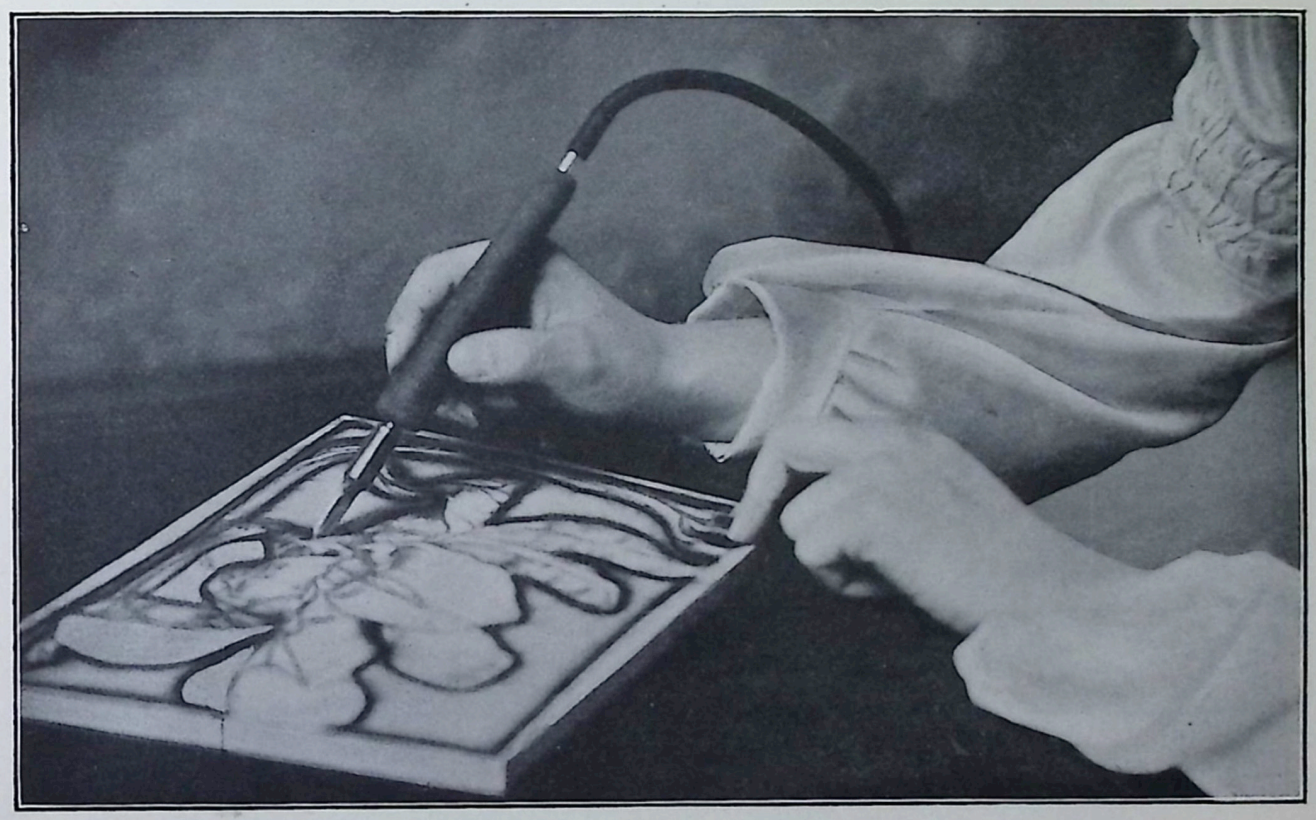
PEN STUDIES BY DETAILLE

A Demonstration on Relief Pyrography.

FREE instruction in a craft little practised in this country is an attraction that is seldom offered to art workers and teachers. Yet this is the offer that Messrs. Moeller & Condrup have recently been making in London and the provinces with respect to relief pyrography. Hitherto, pyrography, or, as it is often termed, "pokerwork," has hardly been considered seriously as a craft, and certainly the possibilities of ordinary flat pokerwork alone are hardly sufficient to warrant it being accepted as such. But relief burning is certainly deserving of a place among the artistic crafts. There has been little opportunity of seeing good work in England, but in France, and especially in Germany, the land of its inception, many clever craftsmen have taken advantage of the possibilities of this craft, and it is carried out so largely that a craft exhibition is seldom held without at least a few examples of this work.

In the first place, to be really successful with relief pyrography, it is of great advantage to have a good knowledge of drawing and modelling. Especially the latter, for, practically speaking, relief burning is modelling in wood, and it is possible to obtain all the delicate effects of relief in wood that could be obtained with modelling clay.

Miss MacCree, the lady who is giving these free lessons at the instigation of Messrs. Moeller & Condrup, kindly consented to give this demonstration to the writer for the benefit of readers of ARTS & CRAFTS, which, illustrated by the photographs taken during the course of the lesson, presents the matter in a form almost as clear as one of her personal demonstrations.



BURNING IN THE OUTLINE WITH THE KNIFE POINT.

"In the first place," said Miss MacCree, "let me describe the slight difference in the tools used to those employed for ordinary flat pokerwork."

Only two "points" are needed—one for burning in the outline, called a "knife-point," and the other a "modelling point" for the modelling.

Then we need larger bellows, for more air pressure is necessary to bring the points up to the right heat. Personally, I find it inconvenient to use the hand for working the bellows, for one really requires the use of both hands. I therefore use a foot bellows, and when one has become accustomed to them the advantages are great. The first thing before one commences work is to select a good piece of wood.

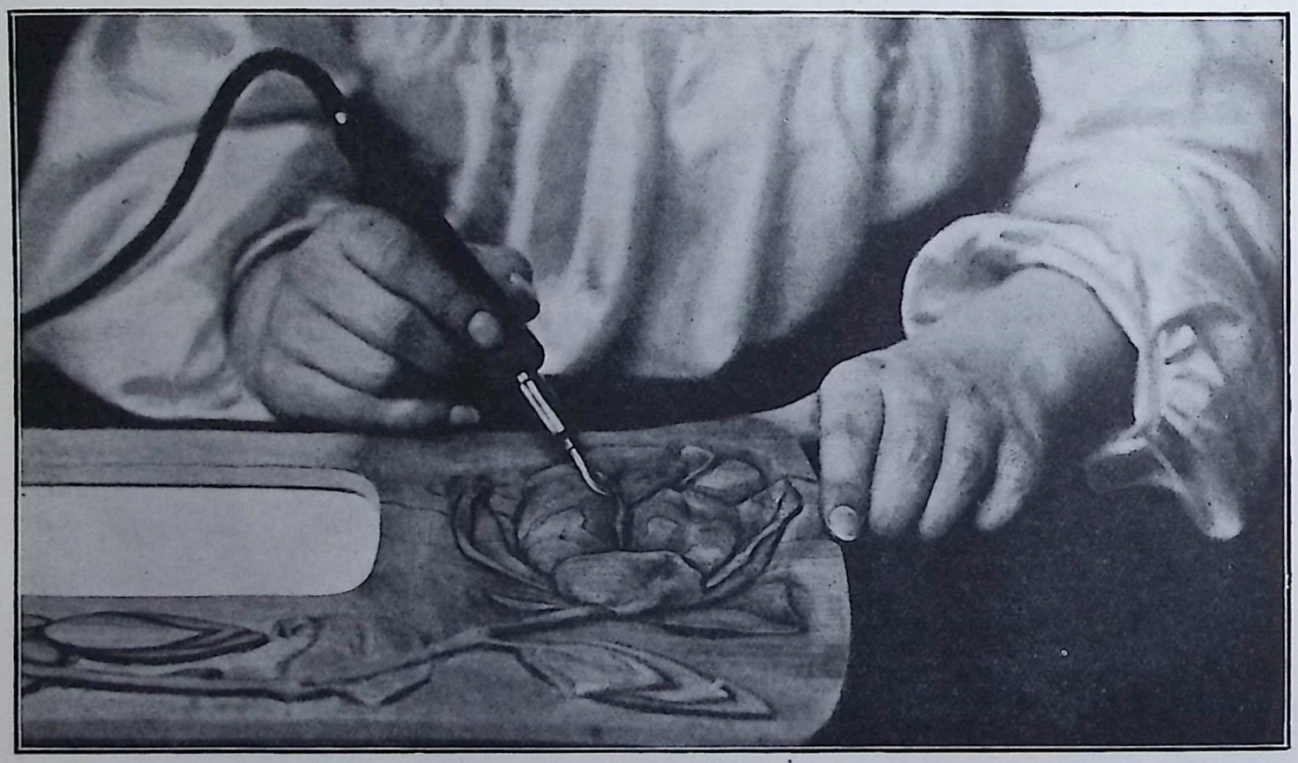
Unless it is well seasoned and free from knots, it is liable to warp badly just when the work is nearly completed.

The knife point is now affixed and heated up in the usual way until a white heat is obtained. In the case of a new point it is sometimes difficult to obtain this degree of heat, and in that case the point should be kept in the spirit flame while the bellows are kept at full pressure for a few minutes, when the point will, in all probability, be found to be working correctly. Be sure and see that the hole in the point for the escape of the gas is not clogged up. The benzoline used should have a specific gravity of from 65° to 75°, and the bottle should not be more than two-thirds filled. My design is already traced on the wood, so I now commence to burn round the outline, the depth of the line depending on the amount of relief required. If the outline has been accurately traced from the original design, the point must be taken round a little outside of the line to allow for the spread of the burning. To make a sharp, clear line, hold the "point" so that only the sharp edge sinks into the wood, and not so that it slopes to either side. Do not use any pressure, but move the "point" slowly and steadily along. Care must be taken to see that all the lines have been burned to an equal depth, and they must be touched up where unequal.

When burning curves, or very light lines, the "point" should be held in as perpendicular a position as possible, allowing only the sharp tip to penetrate the wood. In this position, it will be found more easy to negotiate the corners.

The background has now to be burned away to an even depth, in this case of nearly a quarter of an inch. This is done with the same point, which, held in various directions, burns away the wood strip by strip. The point must be used gently, for, if too much pressure is applied, it may bend. The heat should be sufficient to consume the smoke that arises from the burning.

Many workers take down the background first of all roughly with a gouge, and, if a good deal of wood is to be removed, this is probably best. It is not necessary in either case to be particular to at first obtain a perfectly level surface, though the average depth should be the same, for the background should finally be carefully gone over with the modelling point and all irregularities smoothed away. It is not wise to obtain an absolutely level ground, for, in the case of a piece of work where there are large masses of background, the effect would be monotonous, and a little irregularity would pleasantly break up the surface.



SHOWING THE USE OF THE MODELLING POINT.

The whole work, you will observe, now presents a rather scorched appearance, and a good deal of charred wood needs removing. To do this, I take this stiff wire brush and rub the wood vigorously.

The modelling has now to be commenced, and this is the most difficult part of the work, for the final

STAGE I.—THE OUTLINE BURNED IN.

STAGE II.—THE BACKGROUND BURNED DOWN.

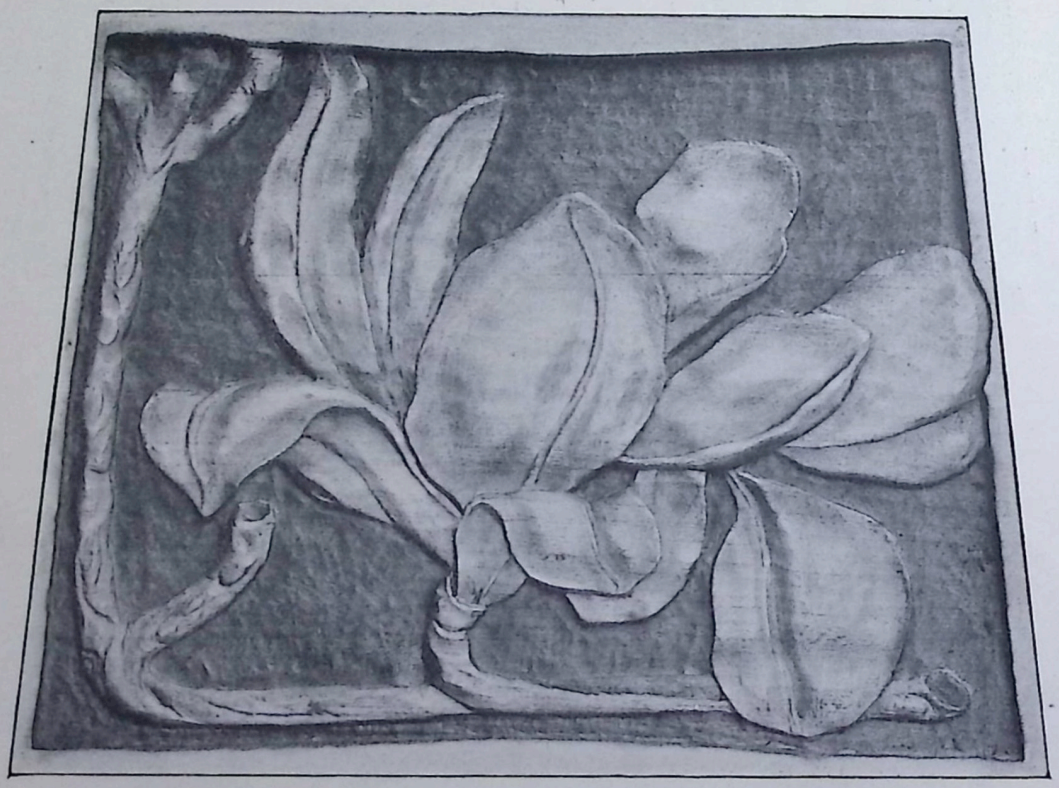
effect naturally depends on the way in which this is done. Should the design consist chiefly of a natural plant form, it is helpful to place a piece of the plant before you, and follow the contours of this. Of course, if the worker is already experienced in modelling and the treatment is not quite apparent, it is better still to make a rough model in plasticine as a guide. For there can be no experimenting with pyrography. When the wood is burned away in the wrong place, nothing can be done to remedy the mistake. For a beginner who has little previous experience in modelling, I have found it a good idea to work from a cast. Many useful casts of flower forms can be purchased, and the designs can be adapted from these.

It is best to first roughly indicate on the wood with a pencil the parts to be burned away, leaving untouched those parts to be left in full relief.

The modelling point is used in very much the same manner on the wood as a modelling tool is used on clay. It is best to burn gradually from the parts in deepest relief up to those parts to be left untouched. Little practice is necessary to learn the correct manipulation of the modelling point. The chief thing is to have a clear idea of the ultimate form required.

Do not finish any portion of the design to start with, but first model all the masses roughly, afterwards going over the design bit by bit and accurately modelling each leaf and flower. During the progress of this final stage it is wise to occasionally rub over the wood with the wire brush to remove the charring; otherwise the work cannot be judged accurately. At the same time, the brush must be used with care, otherwise a delicate piece of relief, such as a stem, may be broken away.

It must also be borne in mind that it is not wise to attempt too much undercutting in relief pyrography. In the case, for instance, of a turned-up leaf or petal, if this is undercut, and the outstanding portion of wood left not more than an eighth of an inch thick, or even less, the wood is not nearly so strong, owing to its having been burned, as it would be in the case of wood cut with the chisel.



STAGE III.—MODELLED AND FINISHED.

The burning now being finished, I give the panel a final brushing with the wire brush, and, as I intend staining this panel, I shall also use a little sandpaper to make the burnt parts a little lighter.

Owing to the irregular surface of the wood when done, a french-polish finish is impossible, not only on account of its difficulty, but also because of the unnatural appearance it would give the work. It is therefore advisable to give the work a wax polish.

A. F. P.

Stencilling.

BY BEATRICE A. WALDRAM.

STENCILLING is one of the simplest, and, perhaps, the least expensive methods which can be employed to satisfactorily decorate a plain surface, and the difficulties which have to be overcome at first are small, indeed, compared with the results which it is possible to obtain. Apart from design, the actual execution of stencilled patterns requires but patience and care, on the other hand, the simplicity of the process is not of such a nature as to restrict the ingenuity of the designer. On the contrary, the more one knows about designing for stencil cutting, the more one learns to utilise and turn to ornamental account the necessary limitations of the craft.

Before saying very much about designing for stencil plates, it may be as well to enumerate some of the uses to which this process of decoration may be put, and the best materials to use. Stencilling can be used on a large scale, as, for instance, in decorating the walls of a room, or ornamenting portières and hangings; or, again, it may be used on such a small scale as to take the place of, though in no way to compete with, or imitate, pen and ink work, in book-plates, &c.

Schemes for the decoration of wall surfaces are as numerous as there are surfaces to be decorated, and materials also are varied.

Walls may be covered with plain wall paper, distempered, or be of wood, plain painted or stained; or, again, another method, more suitable, perhaps, to country use than to town, is to stretch canvas or arras cloth upon the wall, holding it securely in place at the edges with narrow beadings of wood. This answers best for walls which, for purposes of decoration, it is thought advisable to cut up into panels.

In the case of a paper or distempered background, the pattern should be stencilled with distemper colours; but, if the ground is of paint, oil paint is better than tempera for the decoration. Oil paints, too, are best for an arras or canvas background, and a little benzine mixed with the paint prevents it from spreading.

Should the background be of unpainted wood, very effective results can be obtained by the use of stains. The chief difficulty, of course, being to prevent the stain, which is very much thinner than either oil or tempera colour, from running under the plate and spoiling the effect.

There is a preparation, made by Mrs. Alma Scott, of Brunswick Square, known as "Steynphyx," with which it is useful to prepare the wood before commencing to work, and this also prevents the colours running. There are numerous makes of good water-stains, some of which do equally well for wood or textile fabrics. On the latter, however, although giving a brilliancy and transparency which it is impossible to obtain with oil colours, they do not always permit of the work being washed. In the case of woodwork, of course, a coat of varnish obviates this.

From considering the decoration of wall spaces, we very naturally turn to portières, curtains, and other hangings, and here again we have before us a wide field for both designer and operator. Stencilling forms a most satisfactory means of decorating a portière; for the design can be prepared to fit the size of the hanging, and a design complete in itself is on a higher level than the same quantity of material, cut from a repeating pattern, and made up into the required hanging.

On this subject of design I hope to speak more fully later on.

If the hanging is for a door or wall covering, it should, of course, be somewhat heavy in texture, and one can hardly do better than use canvas or arras cloth. The hard surfaces of these materials take the paint well, and, although it is quite possible to stencil upon a more woolly material, the harder surface, which is also less liable to become dusty in use, is better.

Messrs. Burnet & Co., of Garrick Street, Covent Garden, have a very good selection of arras cloths. They are of two kinds, the more expensive being known as "Antique Arras"—this, 50 in. wide, is 2s. 6d. a yard, whilst its humbler brother of the same width is but 10½d. There is also a narrower width of 36 in. at 8½d.

For curtains of a lighter nature there are a variety of materials to choose from—sateen, linen, and plain dyed calico, known generally as calico lining, make excellent foundations. The latter is 30 in. in width, and is dyed in a large number of shades.

Bolton sheeting and a material known as cream tissue are also very useful for chair or cushion covers.

Velvet, silk, satin, &c., are all possible foundations to work upon; but whether they should be used in this way is a matter of taste. My own feeling is rather that stencelling is essentially a simple means of decoration, and that it should be kept for plainer and coarser materials, and not be used to ornament surfaces which have in themselves a quality of richness. Silk and velvet call rather for decoration of gold, or embroidery, and not of paint.

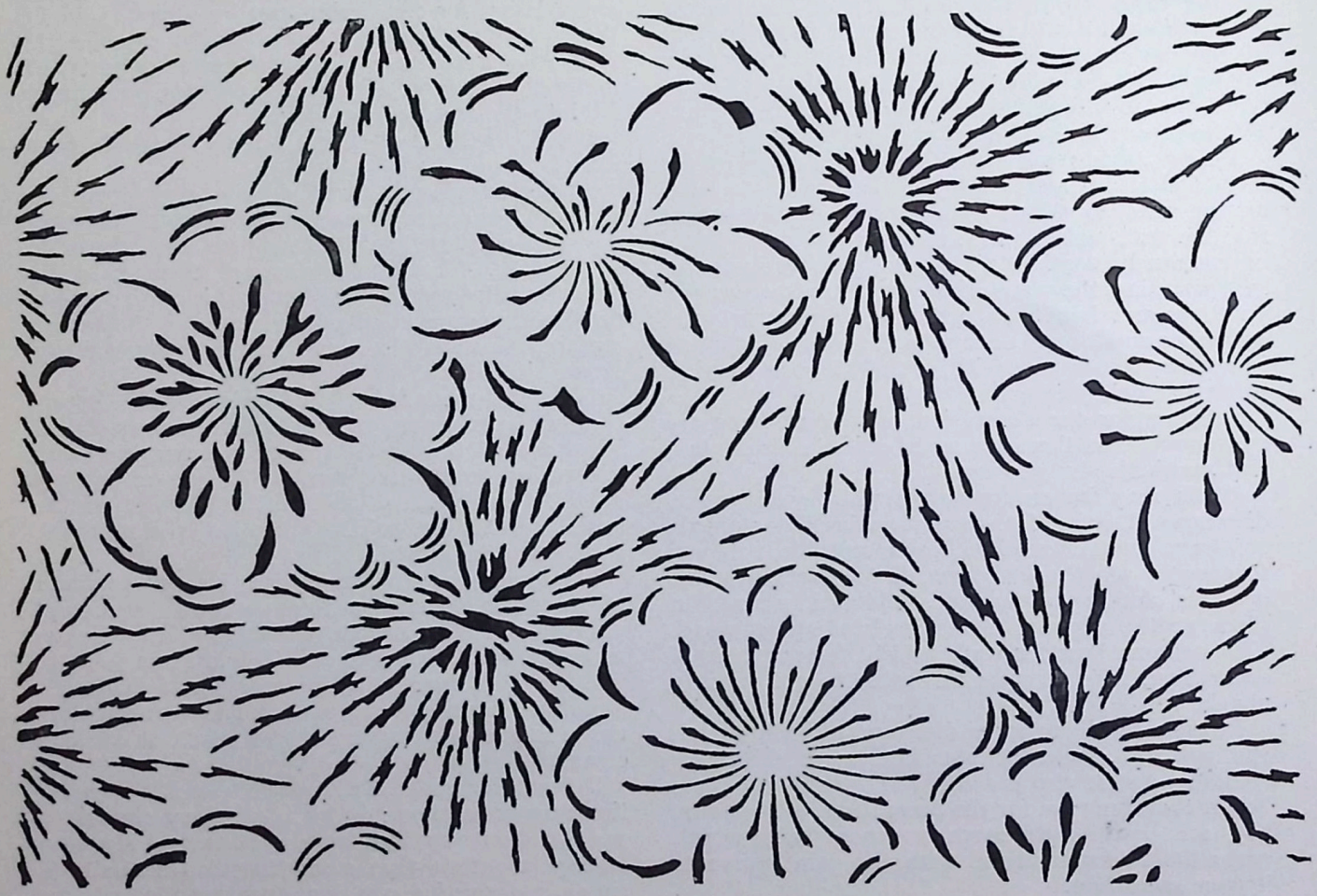
Oil colours for stencilling on textile fabrics should be mixed with benzine, and materials treated in this way can be washed.

Preparation of Plates.

It is necessary that the material from which the plate is to be cut should be tough and not brittle. There are several substances to choose from, but, perhaps, for all general purposes, one can hardly do better than take a sheet of Whatman's hand-made drawing paper.

If this is first saturated with pure linseed oil, and, after the oil has been wiped off, put flat in a drawer to keep it from dust, it will be found not only to cut cleanly and crisply with the knife, but also to possess some of the qualities of tracing paper; and, if the design to be stencilled is sufficiently strong in outline, the oiled Whatman can be placed over it, and the design can be traced straight on to its surface.

For very large plates two sheets of continuous cartridge paper, pasted together, or single sheets of thick cartoon or stout brown paper can be oiled and used.



A Japanese Stencil.

For moulded surfaces, thin copper or tinfoil is useful, but difficult to cut. In all cases where paper is used the plates should be finished with a coat of knotting, that is, thin brown shellac dissolved in methylated spirit; and, when a plate is being used for distemper colours, a coat of paint will be found helpful to preserve the surface from moisture. When the design has been traced on one side of the paper from which the plate is to be cut, the other side should be coated with knotting, and, when this is dry, the stencil should be cut, and the remaining side, as well as the cut edges of the plate, should be knotted. Stencils which are much used may be strengthened with calico.

More use might be made of the Japanese method of cutting two plates simultaneously in thin tough paper; then, after placing threads of silk arcoss the plate to strengthen it, the other is pasted down exactly on top, so that the two together form one thin but tough and durable plate.

Japanese stencils are, as a rule, lighter, and subjected to far less severe treatment than our European plates, and, although it is well to bear in mind that for a European to set himself to imitate Japanese methods would probably produce no very good results, there is a great deal we can learn from our clever little artistic cousin, who has carried the art of stencilling to a greater refinement of finish than we can either hope, or perhaps care, to imitate.

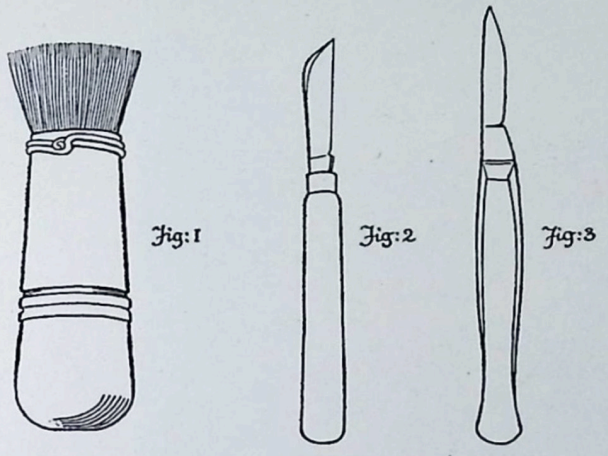
Mr. Batsford (94, High Holborn) has just now a very extensive collection of original Japanese plates, which he is selling at very low prices, and a print from one of which is reproduced here.

Cutting the Plate.

Two things are certainly essential to the successful cutting of a plate. A sharp strong knife, and

a sheet of glass to place under the plate to make a hard surface to cut against. In order to keep the blade of the knife always in good condition (for the best of knives will get blunt after cutting across a sheet of glass for some time), an oil-stone should be kept handy.

An ordinary penknife, made very sharp at the point, can be used; but a knife which is not made to



shut up is better. Fig. 2 shows a very useful little knife known as a stencil knife, and sold at most artist colourmen's, and Fig. 3 is an illustration of a medical knife (scalpel) which would be invaluable, were it not furnished with such a very blade-like handle—easy to grip at first, and suitable, no doubt, for the purpose for which it was made, but apt to make a very painful impression upon the palm of the stencil-cutter's hand, after the first half hour of use. As this difficulty, however, can be obviated by wrapping the handle round with wash leather, the knife is not to be despised on that account. In cutting one instinctively guides the blade of the knife with the index finger (Fig. 5); a little gutta percha, warmed, and placed on the back of the knife, will help to prevent the formation

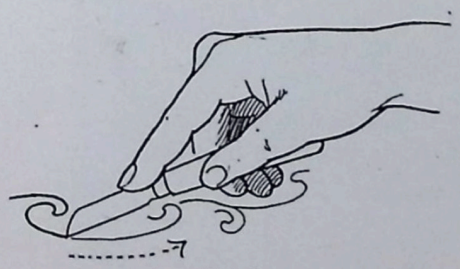


Fig. 5.

of a very painful furrow. When small round holes occur in the design, they should be punched, not cut, using a solid piece of lead to replace the glass under the plate during this process.

Always leave a good plain margin round a plate, and, in the case of a large pattern which is to be often used, it is better to strengthen it at the edges with thin lathes of wood.

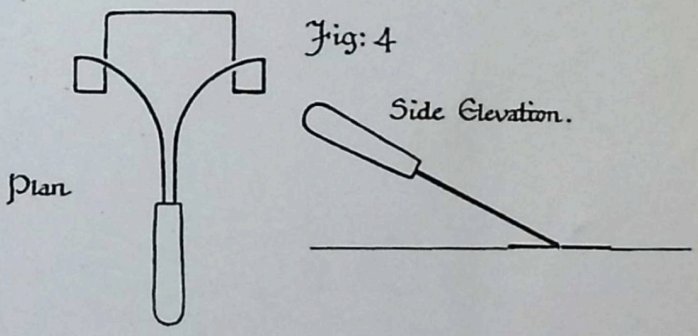
To Use the Stencil

The plate must be firmly fixed in place, on to the material to be decorated, with drawing pins or stencil pins. These latter can be bought at an artist colourman's, or can be home manufactured by driving needle points into little knobs of wood.

Fig. 1 gives a sketch of a stencil brush. The bristles should never be longer than the one shown, and may well be shorter. It is necessary that the brush should be firm and full of bristles. A very good substitute for a regular stencil brush is a sash tool, firmly bound up to within three-quarters of an inch of the end of the bristles.

The brush should not be dipped into the colour, but the latter spread on a palette with a palette knife, and the brush rubbed into that, so that the tips of the bristles only carry the colour, and the brush does not become clogged and unfit for use. The colour should be dabbed on, not thumped on so hardly that the bristles of the brush spread out, and a slightly rotary movement of the brush should be aimed at.

The plate should be held very firmly in place, so that no colour can get underneath it, on to the parts which are not meant to be coloured, and for wall surfaces and ceilings, where the holding down



of the plate may become tiresome, a little instrument, which can be made out of wire, bent into shape as Fig. 4, and driven into a wooden handle, will be found of great assistance.

For very fine work, such as book plates, &c., or obtaining prints from Japanese stencils, a worn-out sable brush, cut off very evenly to about a quarter of an inch above the ferrule, answers very well.

Stencil plates must always be cleaned after use, and, after the paint has been wiped off with water or spirit, must be hung up by one corner until quite dry. After which they should be taken down and kept flat until again required for use.

In putting several stencils away together, care must be taken to put paper in between each plate, as the points are apt to catch in each other and tear.

Stencilling is generally looked upon as a cheap and rapid method of decoration, and it certainly is both, but it wants care; and the beginner would do well to take warning, and not be too rapid at first, lest he spoil his materials, and find that after all the process is not so very cheap.

Beatrice A. Waldram.

DESIGN FOR A STENCILLED HANGING.

BY STANLEY A. DAYNES, RUGBY (WOOD INSTITUTE) EVENING SCHOOL.

AWARDED A GOLD MEDAL IN THE NATIONAL COMPETITION, 1905.

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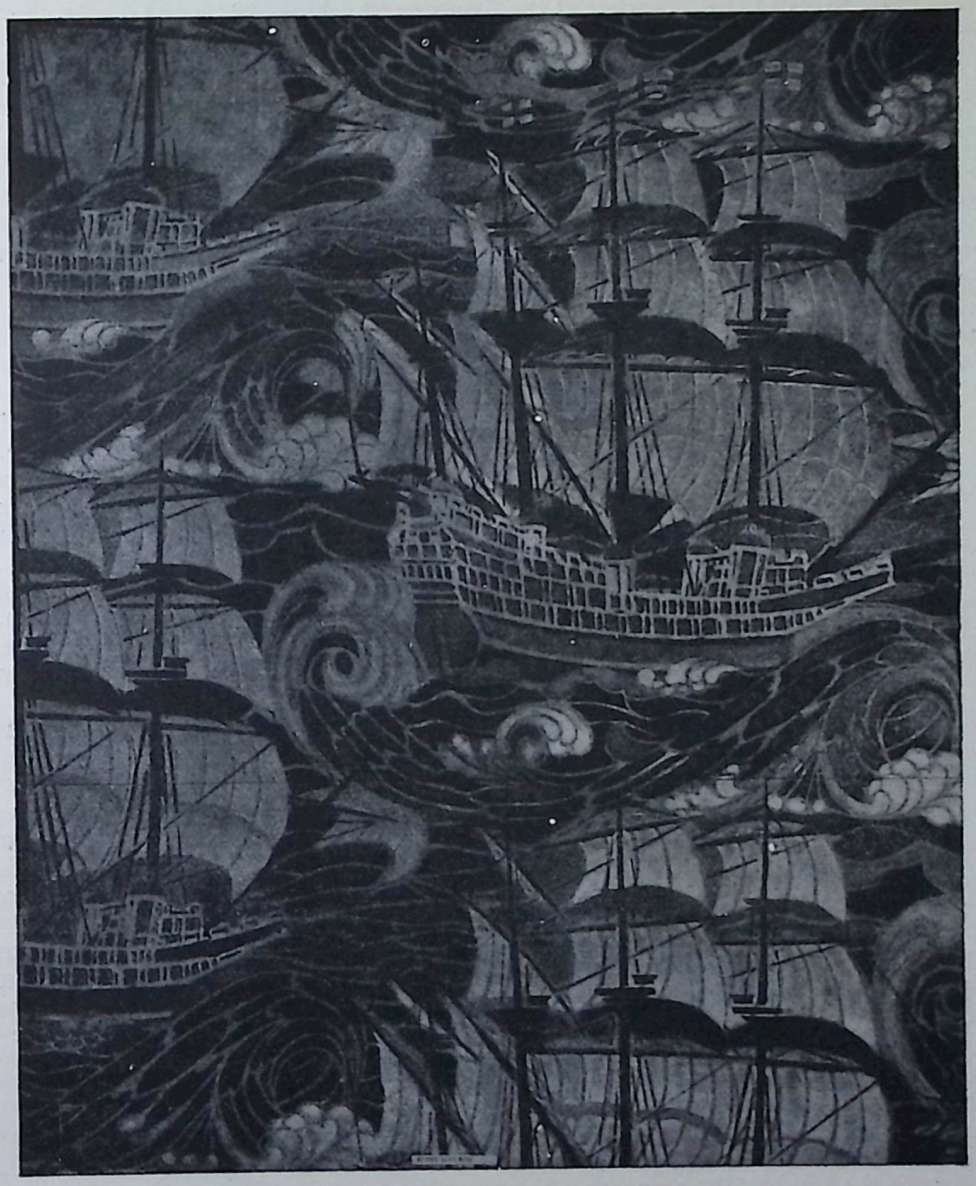
DESIGN FOR A STENCILLED HANGING.



BY GEORGE BOWMAN, NEWCASTLE-ON-TYNE (ARMSTRONG COLLEGE) SCHOOL OF ART.

AWARDED A SILVER MEDAL IN THE NATIONAL COMPETITION, 1905.

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Bookbinding.

A NEW SERIES OF PRACTICAL ARTICLES ON BINDING, TOOLING, AND DESIGNING.

By F. SANGORSKI, Teacher at the Northampton Institute, and
G. SUTCLIFFE, Teacher at the Camberwell School of Arts and Crafts.

XXII.—Variations of Forwarding (*continued*).

We find that we omitted to mention last month, when referring to vellum binding, that the folded piece of brown paper shown in Fig. 102 (see March number) which forms the hollow must be cut at head and tail, as in Fig. 105, so as to enable the vellum to be turned into the hollow.

Covering with Velvet, Silk, or an Embroidered Material.—For a book that is to be covered in any

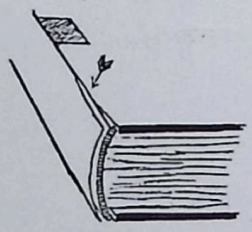


Fig. 105.

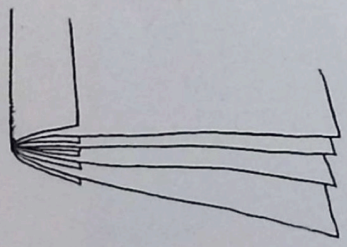


Fig 106.

of the above materials, the processes up to covering are the same as covering with vellum. The correct position of the book should be marked out on the cover, and the back of the book glued with thin glue, very little being used. The book must then be laid down in its position on the material, and the cover drawn over and lightly pressed down on the back with the hand to ensure it sticking. Then, with each side in turn, the material should be lifted up, the board glued, and the cover laid down and lightly pressed with the hand. The corners are then cut, as in Fig. 103 (March number), the edges of the cover glued and turned in over the boards, and the corners mitred as when covering with vellum. (Fig. 104, March number.)

With embroidered covers great care is necessary in placing the book down on the material accurately, or it will be found that the embroidered design will not be in its correct position on the cover.

Buckram or Linen Binding.—The processes for this binding are the same, as far as covering, as for the library binding. Then a hollow back has to be made, the material glued, and the book placed down on it in the correct position. The cover is afterwards drawn over and rubbed down, the edges turned in over the boards, and the corners mitred, as with the vellum binding. A string can be inserted as a headband in the same manner

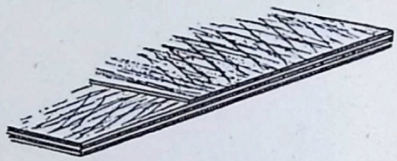


Fig. 107.

as with the library binding; but it is not customary to have a headband in this case.

Photograph Book.—If this is to be made of boards, each sheet must be placed on a linen guard, as in the case of thick plates (see Figs. 11 and 12, in May, 1905, number). Two boards can be guarded together, and in this case a linen guard should be placed on top as well as underneath. The boards can be made up into sections and sewn, but it is advisable not to have more than four cards in each section.

Owing to the presence of the linen guards, there will be an extra thickness at the back, but this will be made up for by the photographs when they are stuck in. When cutting the edges, enough paper will have to be inserted to make the book up to the thickness of the back. This paper will also be required when gilding, and it is better to leave it in until the book is finished.

With a book of this kind, it is not necessary to press it after the boards have been laced on.

If the volume is to be made up of paper, it should first of all be folded up and made into sections

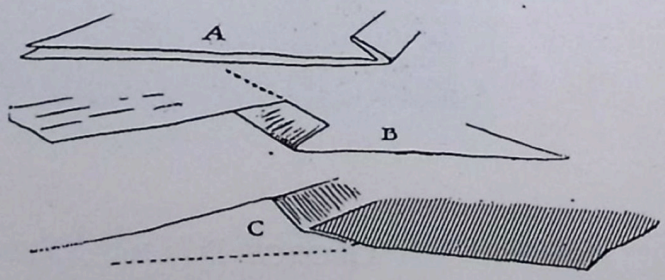


Fig. 108.

consisting of not more than four leaves. To make allowance for the thickness of the photographs, a guard must be folded and inserted between each leaf. These are made by taking strips of the same paper as the book is made up of, about two inches

in width, which are then folded in half and put round each folded sheet, with the exception of the outside sheet, of every other section. A guard must also be put in the centre of each section (Fig. 106). Care must be taken when sewing to see that the inside guard is sewn in.

Packing paper is necessary when cutting, as in the case of the card book; the remaining processes have already been described.

Oak Board Books.—The boards on the early bindings were usually of oak, either covered entirely with leather or only half-covered. Although, owing to the possibility of the wood splitting, it is not so safe to use as millboard, a very interesting half binding, and a very appropriate one for early manuscripts and printed books, can be made consisting of a leather back with sides of plain wood. It is only advisable to use oak boards when binding large books, for to guard against splitting they have to be much thicker than millboard. It is not safe to use oak of less than a quarter of an inch in thickness. The boards are less likely to split if made up of several thicknesses of veneer glued together, with the grain of each piece reversed. After

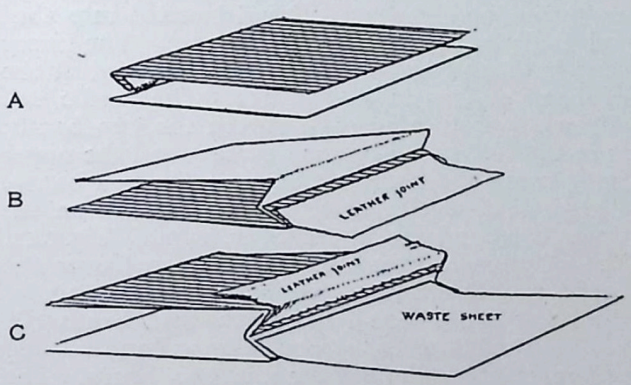


Fig. 109.

gluing the board should be pressed for a day in the standing press, and it will result in a hard and solid piece of wood. It is the reversing of the grain that makes a board glued up in this way less likely to split or warp than a single thickness of wood. The boards should be cut out to the size required, and planed smooth. A rebate has then to be made to allow the leather to sink in level with the surface of the board (Fig. 107). This is best done with a rabbit plane. For the same purpose a piece must also be cut out of the edge of the board, where the leather will turn over at the head and tail, and if the book is to have a leather joint, allowance must be made for this.

The book is forwarded in the same manner as an ordinary binding. To avoid making an extremely large joint the boards should be bevelled at the back.

If the edges are to be cut and gilded, they must be done before the boards are laced on. To cut the fore-edge, a tape must be wound tightly round the book, the back then knocked flat, and the book placed in the press and cut. The tape will keep the back flat, and thus retain the fore-edge square for cutting. The boards should now be sand-papered smooth, and, if necessary, fumigated to the depth of colour required.

To interlace the slips into the board, holes are made with a brace and bit, and pieces cut out where the slips are to be sunk in.

To fasten them in securely, the holes are plugged up with small pieces of wood, after the slips have

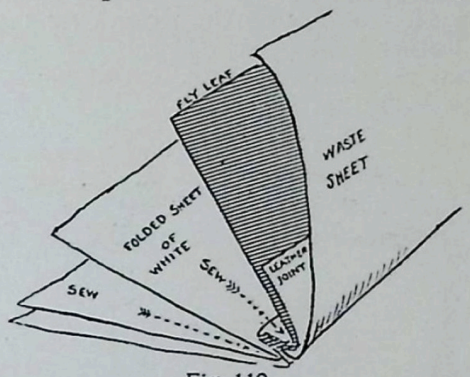


Fig. 110.

been interlaced. Owing to the danger of splitting the board, it is not possible to knock down the slips after they have been interlaced. They must be sunk into the board very neatly, and the hollows filled up exactly, so as to present a perfectly level surface. A useful paste for filling up the hollows is ground chalk mixed with paste. When dry this makes a hard plaster, which can be scraped level with the boards. Covering is done in the usual way, the leather being trimmed off with a knife and straight edge level with the edge of the rebate. An illustration of an oak board book was given on page 141 in the February number.

Leather Joints.—If a leather joint is required, it should be sewn on to the book with the end papers. The end papers are made up in the following manner:—Take a folded sheet of paper, a little larger than the book, and of a tone to match the paper the book is printed on, and fold as in A of Fig. 108. Then open the sheet and cut off on the fold shown by the dotted line in B of Fig. 108. Turn the paper with the folds over, and paste on

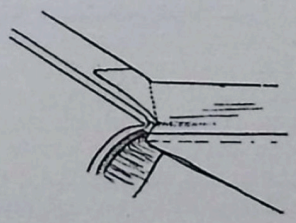


Fig. 111.

the sheet which is to be the flyleaf (C, Fig. 108). The flyleaf is the first leaf which appears when the cover is opened, and may be of white or coloured paper, vellum, silk, leather, or any other suitable material. If vellum, the edge should be pared before it is pasted on; if of silk, it must be lined with paper. To do this, the paper is covered with thin glue, very little of it being used, and the silk laid down on it. It is advisable to only have silk ends with books that are to have gilt edges, as the

size used in gilding somewhat prevents the silk from fraying at the edges. If leather, the leather must be pared very thin and lined with paper, paste being used. The paper should be pasted, the leather laid down on it, care being taken not to stretch the leather when doing this, and left to dry under a slight weight. The flyleaf is then folded back as shown by the dotted line in C, Fig. 108, and the result is as A, in Fig. 109. Turn the paper over and paste on the leather joint, face downwards (B, Fig. 109). This must be pared very thin, and should be about 1½ in. wide, for an 8vo book. The whole is then

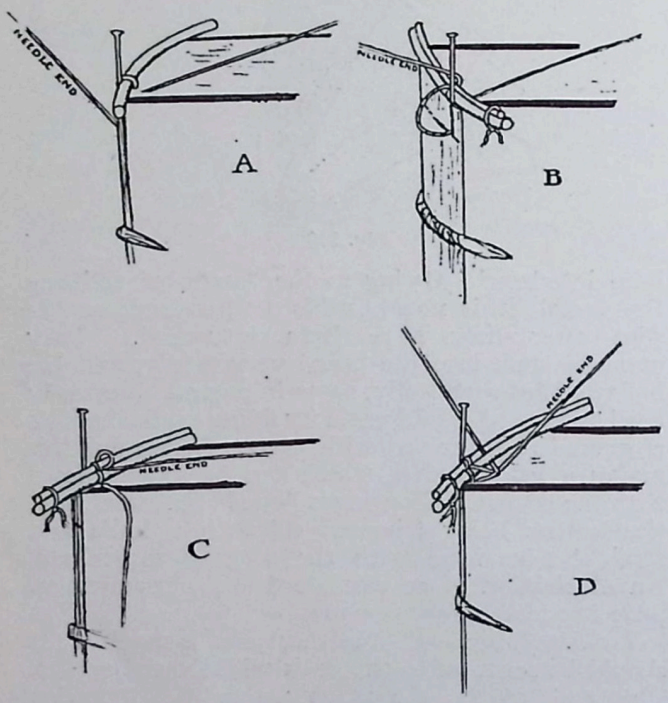


Fig. 112

turned over and a waste sheet pasted on, as in C, Fig. 109. The waste sheet is folded over the leather joint, and a folded sheet of white inserted, as in Fig. 110, thus completing the end paper, which is sewn on at both sides of the fold as seen in Fig. 110. To prevent the leather joint from marking the flyleaf when the book is pressed, a piece of cartridge paper should be placed in between. A slight touch of glue will attach this paper to the waste sheet, and so prevent it from coming out of its place. When the book has been covered, the waste sheet is torn out and the joint cleaned, as with the ordinary end paper, and the leather joint is pasted and laid down. The margin of leather required is then marked all round with the dividers, and the leather mitred at the corners and at each end of the joint. The leather is not cut at the extreme end of the joint, as by doing so the joint would be weakened. The cut should be made as shown in Fig. 111. The joint should be well rubbed down, the leather trimmed round evenly, and then the remaining space filled in with cartridge paper. After this the book should be left to dry in the position shown in Fig. 94 (see Pasting down End Papers, Chapter XXI.).

Leather or Silk Doublures.—If a leather or silk doublure is desired, the inside panel should not be filled in with cartridge paper. If it is to be of leather, the leather should be pared to the same thickness as the leather on the margin, and cut to the size of the panel. When trimming out the marginal leather, a slightly slanting cut should be made, and the edge of the doublure cut in a corresponding manner, so that when it is pasted in it will slightly overlap the marginal leather without projecting above. The doublure is then pasted and put in. If it is to be silk, a piece of cartridge paper should be cut the same size as the panel, glued on one side with thin glue, and the silk laid down on this. The silk then should be cut round, slightly larger than the cartridge paper, the edge projecting slightly glued, and turned over on to the cartridge. This is to prevent the edge of the silk from fraying out. The cartridge paper can be then glued and placed in its position on the board.

Double Headbanding.—As with a single headband, a double headband can be made on either vellum, catgut, or string. The lower band should be about twice the height of the upper band. A loop is first made, in the same way as with the single headband, and the lower band inserted into this, and the loop drawn tight (A, Fig. 112). The upper band is then placed on top of this, and tied at the left-hand end, as in B, Fig. 112. The needle end of the silk is then passed between the two bands, as in B, Fig. 112, and wound twice round the upper band, coming out in front between the two bands. The result should be that two loops appear on the upper band and one on the lower, as in C, Fig. 112. The other end of the silk is now crossed over the needle end, thus starting the beading, passed under the lower band, then between the two bands (D, Fig. 112), and wound once round the top band, coming out in front again between the two bands. The needle end is now passed over the other end, and treated in the same manner. The process is repeated until the headband is long enough, being

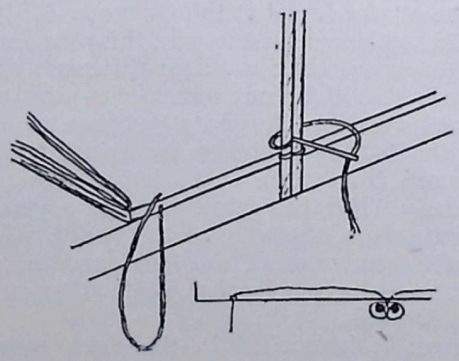
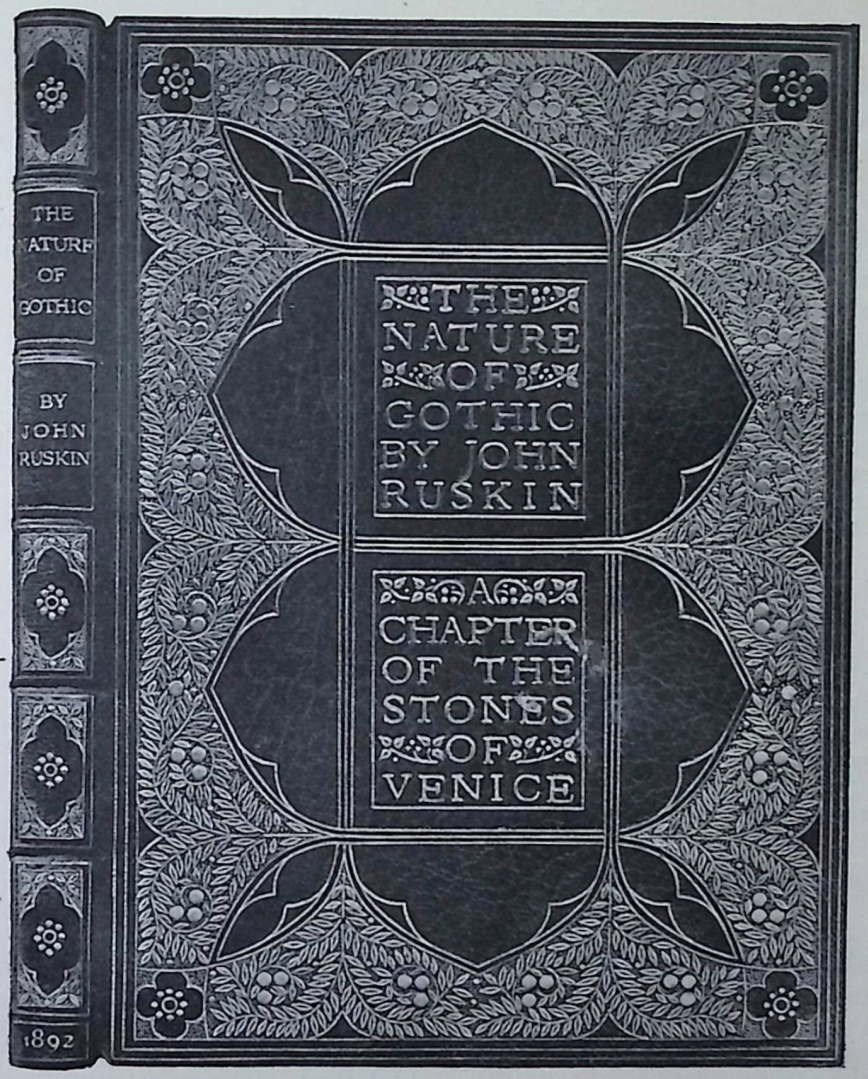


Fig. 113.

fastened down to the book at intervals, as with the single headband. This can only be done when the needle end is brought between the two bands after being wound round the top band. It is then passed into the book, coming out at the back below the kettlestitch, then between the two bands, and



BINDING · SHOWING USE
OF DOTTED BACKGROUND
BY F· SANGORSKI
AND G· SUTCLIFFE

wound round the top band, coming out between the two bands. The headbanding is then continued with the other end. Thus, whenever the headband is fastened down, two successive stitches are made with the needle end. To finish off the headband the needle end is passed through the book twice, and the other end taken behind under the lower band. The silks are cut off, leaving slight ends, which are frayed out and pasted down to the back.

Two Coloured Headbands.—If just alternate coloured stitches are required the two coloured silks are tied together with a small knot. When starting the headband this knot is taken into the book. The headbanding is then proceeded with in the same way as with the single coloured silk. If successive stitches of one colour are required the headbanding is continued with this coloured end of the silk until the required number of stitches are made. Then it is crossed by the other end, which continues the headbanding. Before doing these headbands reference should be made to single headbanding described in Chapter XI.

Sewing on Double Cords.—Books requiring a very thick band can be sewn on double cords. The double cords are set up on the sewing frame in the same manner as the single cord. When sewing, the thread passes out between the cords, then behind the cords, and is inserted into the section again between the cords (Fig. 113). Sewing on double cords makes a broad band, and if it is desired to heighten it proportionately, a strip of leather can be glued on just before covering.

(*To be continued.*)

Staining and Polishing Mahogany.

IN the previous article, we considered the various ways of staining and finishing oak; we will now deal with the staining and polishing of mahogany.

Few people outside the trade have any idea of the natural colour of mahogany, owing to the fact that it is very rarely polished its own colour; it is usually darkened by means of a stain made of bichromate of potash. If the work is required very dark, a saturated solution is used; but, if it is only to be slightly darkened, the solution is diluted with water.

Mahogany, like oak, is also darkened by fumigation. This method is rarely adopted. Although most furniture shops sell dark mahogany as fumigated mahogany, we can be very sure that it has not been fumigated, but has been stained with bichromate of potash.

Although mahogany is usually stained, and, as a rule, looks better for it, yet, if the wood is of good quality and nicely figured, it may with advantage be polished without staining. In that case, the best way to treat it is to oil it over with red oil: this is a raw linseed oil, coloured with alkanet root. The alkanet root is broken up and allowed to stand in the oil for a few days; the oil will then be found to be slightly tinted.

We will suppose we have a small mahogany sideboard to polish, and wish it to match some Chippendale furniture. We proceed in this way: If possible, have the panels and mouldings loose, so that they could be polished separately. This is very necessary, if we wish to make a good job and have the corners clean. We must make sure that there are no bruises that would show when polished; if any bruises are found, they must be removed, either by raising them or by filling them up. This would be decided by the nature of the bruise. If the fibre of the wood had been dinged (pressed in, but not broken), we should take a piece of brown paper, or blotting paper, soak it in water, then place it on the bruised part, and, while wet, apply a hot iron (a smoothing iron would be just the thing), care being taken to keep the wet paper between the wood and the iron. When the moisture from the paper and the heat from the iron had raised pressed fibres to their original position, then wrap a piece of glass paper round a cork rubber, or something with a flat surface, and smooth the rough grain raised by the wet. But if, instead of a dinge, we have a hole, *i.e.*, the fibre of the wood cut or broken, then the wet paper and hot iron would be of no use. In that case the hole would have to be filled up.

A very useful stopping is made by melting beeswax with resin, about half of each. This composition should be coloured to match the wood; for mahogany use Venetian red. This should be added while the composition is in a liquid state. The handiest way of using this is to mix it in an old table spoon; it is then ready for use, and can easily be warmed over a fire or gas jet.

When using this, run the composition into the hole, and, when it has set, scrape it level with a steel scraper, and with a cork rubber and glass paper smooth it down.

Our work is now ready for staining with a solution of bichromate of potash. The strength of the stain needed would depend upon the nature of the mahogany. The safest way to judge this would be to try a little on a spare piece of wood, or on an unimportant part. Should any part be stained too dark, it could be bleached (for directions for staining and bleaching, see pages 180 and 182, March number). This done, oil, fill in the grain, size, smooth down, match or colour up, and then polish in any of the ways described in previous articles (see February and March numbers). The colours used for colouring up mahogany are the same as those recommended for colouring up oak.

WM. DANIELL.

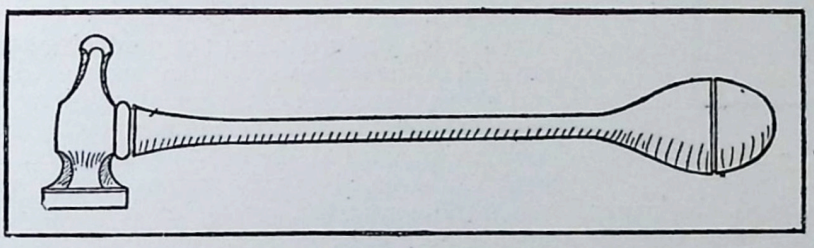
A GOOD hue for walls where prints or photographs are to be hung is a rich yellow brown, or a leather colour. Lustre to the black of the print or the tone of the photograph is thus imparted.

Metal Work.

By HERBERT J. MARYON, late Director of the Keswick School of Industrial Arts.

V.—Repoussé.

OF the many possible methods of decorating metal, repoussé work is at once the earliest and most general. It is to be found on the metal work of the earliest Egyptian dynasties, and in Greece also from the dawn of historic times. Homer describes the devices on the armour of the warrior chieftains of his heroic age, and they were evidently produced by this method. In later times the Greek artists, in this as in so many crafts, executed work which has never been excelled. In the British Museum may be found some beautiful bronze mirror cases and armour fittings with figures which, as examples of high relief, well repay prolonged study. Repoussé work appears on the relics of the bronze age in Britain and in all parts of Europe.



The Repoussé Hammer

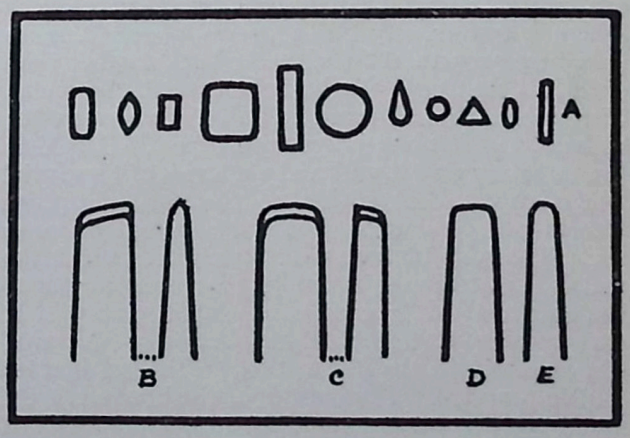
In addition to this wide distribution there is also a great range in execution, which may vary from simple outline, hardly to be distinguished from that produced by the graver, to work in high relief, practically in the round. It may be applied to all metals, and though in its simpler forms it can be easily practised by the amateur, yet it allows scope for the exercise of the highest power and artistic judgment of the experienced craftsman.

The tools used may vary from a household hammer and a couple of specially shaped nails to the working set of punches, running to several hundreds or thousands, of the regular worker. A fair amount of work can, however, be done with a set of twenty to fifty.

The hammer generally used is shown in the illustration. In a very useful size, the head weighs four ounces, and the length of the handle over all is nine inches. The ball end swings easily in the hand. As an alternative a small wooden mallet can be used, and it has the advantage of making less noise.

The tools are about four inches long, and the smaller ones are usually forged thicker in the middle, as they are then easier to hold. Very useful ones can be made from disused cotton spindles. One of the latter, costing 1d. in London, is long enough for four tools. The spindle should be nicked with a file and snapped off in a vice where wanted, both ends of each section softened, and, after shaping, the points should be hardened by being heated to a cherry red (not hotter, or they would be spoilt), plunged into cold water, rubbed bright with emery cloth, and heated till the point is straw colour, and immediately cooled again. Second-hand tools can be bought at about 3d. each, but a man rarely sells the tools he finds useful. Unfinished tools, called blanks, can be bought; they are ready forged, and only require the points shaping and hardening as above. It is both cheaper and better for the worker to shape his own as he finds he requires them. Even ready-made tools, costing 6d. to 1s. each, usually require some small amount of grinding before they are in working order.

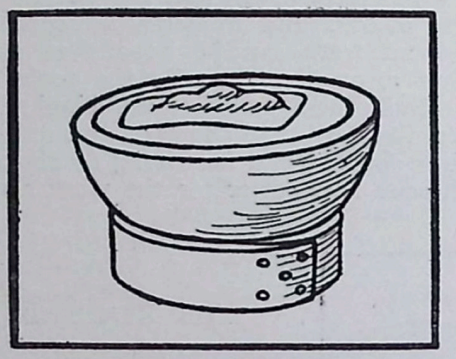
The tools being all very much alike (except at the point), the description given below refers especially to that part of them which is to touch the metal.



A.—Ends of various Modelling Tools.
B.—Side and edge view of Tracer.
C.—Side and edge view of Setting-down Tool.
D.—Modelling Tool. E.—Ball Punch.

They have many different names—tracers, setting-down tools, levellers, matts, stars, and liners, bossers, modelling tools, ring, number and letter punches, &c. Tracers are in the form of blunt

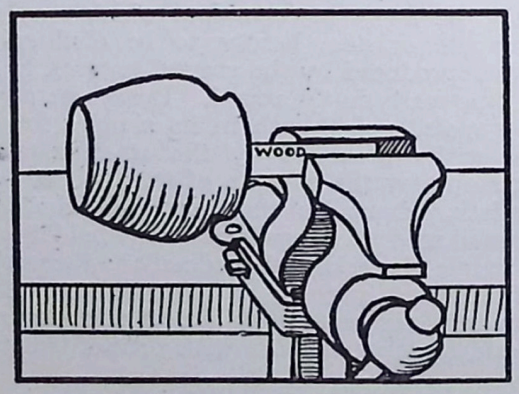
chisels, and are used principally for outlining. They are made of various thicknesses, and measure on their working edges from one-sixteenth to half an inch in length. They and all the other tools are held in the same way, between the thumb and first two or three fingers of the left hand. The third, and sometimes the fourth finger rests on the work to steady the hand. The tracer is held nearly perpendicularly, but leaning back a little from the direction in which it is to travel. The front corner is then lifted a little above the metal, and if a



THE PITCH BOWL.

blow be now struck on the upper end, the corner touching the metal, known as the heel, will dig into the metal and at the same time move slightly forward. The blow is then repeated, and the tool guided along the line previously drawn on the metal. Some difficulty may be found at first in getting the tracer to work properly. If held too perpendicularly it will not move along at all, but simply dig in and perhaps cut through. If held at too great a slope the point will slide along, making merely a scratch on the surface. The correct angle can only be ascertained by trial, and it varies with different tracers. In doing curves of small radius it is necessary to tilt the tracer back further than usual, so that only the heel shall touch the metal. The tracer is much more liable to slip away when so held, but it must be gripped firmly. If held in the ordinary way it will make a series of tangential marks round the outside of the curve. Curved tracers can be bought, but they are not of much use. The edge of the tracer which is to touch the metal is not always made just at right angles to the shank, as in the case of an ordinary chisel. It may vary 20 deg. from the right angle. A useful one is shown in the illustration. The heel is often a little rounded. The bottom of the line left in the metal by the tracer should be nearly smooth. It should not show "stitches." The metal will be found to have risen a little on each side of the line. If it is desired to level the metal on one side, take a setting-down tool (see illustration), and put the longest side into the traced line. The shoulder will rest upon the raised metal on one side, and by gently tapping with the hammer and sliding the tool along, the metal may be pressed down to the level of the lowest part of the traced line. This will, however, be so only to the full breadth of the tool, so next take any conveniently shaped flattener and level down all the remainder, working from the traced line to the centre of any open spaces in the background, *not* from the centre of the spaces to the traced line. If you do, you will drive up a little hill of metal near the traced line, which will be difficult to get rid of.

Matt tools, stars, and liners are used to give special textures to the work. The surface of the first named is hatched or roughened for that purpose. The name "stars" sufficiently describes the second type, and liners have a number of parallel grooves filed across their working surface, leaving little ridges projecting. A matting tool with a very fine grain can be made by nicking a piece of hard steel all round with a file or chisel, then breaking a piece off and using the broken end. There are many other types of these tools, but their frequent use is apt to give a mechanical look to the work; though, if used with judgment, they are useful in giving contrast of textures, especially on cast work. All the tools for "grounding" or producing textures are held in the same way. They are moved about just above the surface of the metal, the force of the hammer blows bringing them into contact. Bossing tools are rounded at the end, and are used on the back of the metal to raise bumps on the surface, the metal meanwhile resting on a pitch bed, or upon a block of lead or tin. Modelling tools are of many shapes, but they are generally flat or nearly flat at the end, and their edges are of all degrees of sharpness. They are used, as their name implies, to model the surface of the metal after it has been bossed up approximately to shape, and then filled with pitch. Ring tools leave a circular mark,

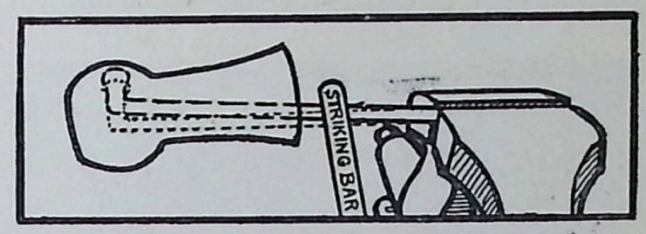


METHOD OF HOLDING BOWL FOR REPOUSSÉ WORK.

which may be afterwards bossed up from the back if required. Number and letter punches are engraved with right and left reversed, like type, if they are to be used on the front surface of the metal, but the right way round if to be used from the back.

There are several different ways of holding the metal. The simplest is to fasten it on to a board with nails. If no great relief is required—as in

trays which are to be used, not only looked at—this is the easiest, as it is also the cleanest way. The board should be of fairly heavy wood, without any strong grain, and not too hard to drive slender nails into. Sycamore is as good a wood as any. The board should be from three-quarters of an inch to an inch in thickness. The best nails to use are one-chin oval sprigs. They are to be driven into the wood almost three-quarters of an inch deep, round the edge of the metal at intervals of perhaps two inches. The nail heads are then tapped over sideways on to the metal. The nails being oval in section bend easily. They are placed a little beyond the edge of the metal as the latter will be found to stretch, perhaps a quarter of an inch in a foot, in working. The metal will rise from the board in parts while the outline is being traced in from the front. When this occurs it should be tapped back with a mallet or by a piece of hard wood used as a flattening tool. It may be half-an-inch square and the same length as the other repoussé tools. In tracing a large piece of work the central parts should not be left to the last, or some difficulty may be experienced in getting the work levelled on completion. If the point of the tracer is occasionally dipped into oil it will slide more easily. When the outlining is completed the work can be either backgrounded where it is, or—if greater relief or surface modelling is required—put on to a pitch board. The backgrounding is done with levelling or matt tools, and the effect of hammering down the background is to raise the pattern in relief. For a tray about twenty inches by nine, Size 10 copper should be used, and the relief of the pattern will be about a sixteenth of an inch above the background. For a tray twenty-four inches across, Size 12, the relief will be rather less. Size 15 is too thick to produce much relief by this method. Pitch work allows of far greater possibilities in the way of relief and texture than board work. For small pieces of work a pitch-bowl should be obtained. It is a cast iron hemispherical bowl, filled with pitch, standing in a leather or rope ring, which allows the work to be tilted to any angle—a great convenience. The iron part is generally about half an inch in thickness, weight being essential to keep the work still. For large work a board should be prepared with a rim all round projecting about an inch. The whole of the wooden tray thus formed is filled with liquid pitch, and allowed to stand for some hours. To fix a piece of work upon it, warm the surface of the pitch (taking care not to set it alight), and press the metal upon it. Take care to allow no bubbles to form under the metal; if any are present they may be located by the hollow sound the metal over them will give when tapped. Heat the metal over any such places, and put heavy weights on the work to keep it down till the pitch has set. The pitch used is that known as Stockholm or Swedish. It is brown in colour. Do not buy the black pitch sold at oilshops in pound boxes; get the right material from a dealer in jewellers' requisites. Pitch is too brittle to use alone, it must be mixed with tallow and mason's dust, bathbrick dust, resin, or plaster of paris. There are many recipes in use—all giving different proportions—but brickdust, *i.e.*, pounded-up bathbrick, 20 parts by weight; pitch, 10; resin, 4; tallow, 2, is one of the best. In an iron pan melt the pitch and resin together, add the brickdust by handfuls, stirring all the time. Put the tallow in last. Rather less will be required in summer than in winter. If, when cool, the pitch is too brittle, melt again, and add more tallow. Half-melted pitch is very sticky, but it can be handled with impunity if the hands are kept wet. To remove work from pitch, drive a thick tracer under the edge of the metal, or warm



THE SNARLING IRON.

the metal with a blowpipe till the pitch in immediate contact with it melts, and allows the work to be lifted off with pliers. Then, while the metal is hot rub paraffin oil over it with a brush, the oil will bring the pitch away with it. If the metal gets too cool, heat it again with the blowpipe, but do not make it so hot as to burn the pitch. Burnt pitch is difficult to remove; it must be scraped off. To transfer a design to flat metal there is nothing better than carbon paper. Use that which marks on one side only. A knitting needle set into a handle, like the lead in pencil, makes a good tracing-point. It should be rubbed on an oilstone to round off the point before use. Lettering can be worked entirely from the back of the metal, or it may be traced and tooled from the front in addition. If it is to be done from the back alone it should be remembered in making the drawing that the letters will come out broader and taller than the drawing by about double the thickness of the metal from which they are worked. The letters will appear to be crowded closer together than in the design, so allowance must be made for this in the setting out. If the letters are to be worked from the front, however, they should be first outlined with the tracer to the full size required. This may be done on wood. The metal should then be turned over on to the pitch board, and the letters bossed up. If square-topped letters are desired, a traced line should be put in a little within the marks resulting from the previous outlining on the front side of the metal. This traced line will outline the flat tops of the letters. The space between these lines should now be hammered down to the level of their lowest part. By this time the edges of the sheet of metal will have probably worked loose from the pitch. Keep them down by heavy weights. When all the letters have been worked, remove the metal from the pitch and clean it. The driving up of the letters

will have forced the background forward a little, too. Rest the work face upwards on a board, and go all over on the top of the letters carefully with a mallet, driving the bulged background back to its proper position. The metal in the letters will be found to be harder than that in the background, so the letters will take no harm. Put the work on pitch again, and finish up the lettering from the back. Remove from the pitch, clean and tap back with the mallet as before. Rest the back of the work on a large flat stake, and true up all in between the letters with pieces of boxwood used like (repoussé) levelling tools. If any work is to be done on the front, fill the hollow back of the letters with broken pieces of pitch as described below, warm, and put on to the pitch board. When cool, tool over as required. For work in high relief, place the design on the metal, and, with a pointed repoussé tool, dot out through the drawing the general shape of the parts to be raised. Turn the metal over, the marks just put in will show where to boss up the design. It may be necessary to anneal the metal several times before this bossing up is carried far enough. Anneal once more, fill the hollows with small pieces of pitch, and warm them till they all run together without bubbles, and then turn over on to the pitch bowl. Remember that bubbles may be known by the hollow sound they give out when tapped. Piece by piece, the design should now be carefully drawn with pencil or ink, and worked over with modelling tools. The metal will get hard after a time, so must be taken off, cleaned, annealed, and filled again as before. To work a pattern on a bowl, first anneal it, fill with pitch, and insert a piece of wood about an inch and a half in diameter, allowing it to project several inches from the top of the bowl. When the pitch has set, grip the projecting piece of wood in the vice, and work the design from the front. Then warm with the blowpipe till the pitch can be turned out, clean the bowl. If the metal has got hard, anneal it. Should the mouth of the bowl be large enough to allow the use of repoussé tools inside (five inches and upwards), put the side of the bowl on to a pitch board, and boss the pattern from the inside. If the mouth is too small, boss up with snarling irons. Then refill as before, and finish up from the outside. A snarling iron is a rod, one extremity of which is held in the vice and the other ends in a rounded knob set at right angles to the axis of the rod. This knob is pressed against the place which is to be bossed, and a good blow given to that part of the rod near the vice. The rebound from the blow causes the knob to strike sharply against the metal opposite it. If the knob be pressed against any part of the inside of a tube or bowl, the blows will gradually drive up a bump on the outside. An iron bar should be used to strike the snarling iron; it requires less attention than a hammer.

EXAMPLE OF LETTERING, WORKED ENTIRELY FROM THE BACK, BY H. J. MARYON (IN WESTMINSTER ABBEY).

For work in the round, first raise the metal to about the right relief from the background, either by bossing up the sheet metal with mallet or punches, or by raising it —like a bowl is formed—by hammer work. The great difficulty is to keep the metal approximately the same thickness all over. It is well to work alternately from the front and back, gradually arriving at the highest relief and lowest undercutting. Remember to anneal the work whenever it gets at all hard. When the right relief has been arrived at, fill the hollow back with pieces of pitch, warm the metal, and the pitch will run well into the crevices; then put the work on the pitch bowl. Rub the surface over with fine emery cloth, taking circular strokes. Draw the figure, or whatever the design to be worked may be, in pencil or ink. In modelling get all the large planes correct before putting in any fine details. Nothing but experience can tell you how far work may be bossed out or under-cut. Very wonderful pieces of work were done in this way in the sixteenth century. Benvenuto Cellini tells how he and the goldsmiths of his time, when they had little figures in the round to make from metal so thin that it could be bent by pressure of the finger nail, first, by hammering, thickened it up in those parts of the sheet which had afterwards to be bossed; how they soldered any cracks that appeared, the earlier ones by very hard, the latter by softer and softer solders; how some of them would make little bronze models upon which to hammer the gold, or moulds into which it could be worked; and how they gradually worked round to the back of the figures till they could be detached from their ground. Methods which in these latter days have, almost forgotten, fallen into disuse.

HERBERT J. MARYON.

Christian Iconography and Symbolism.

THE series of articles which is here commenced is especially addressed to students interested in any branch of Christian art, and will be found of great value to the painter, the embroiderer, the glass painter, the decorator, the illuminator, and, indeed, to the craftsman in general.

Attributes and Symbols.

It is desirable that the student should understand the nature and signification of the chief attributes, symbols, and emblems used by the early and mediæval artists before he directs his attention to the Iconography of Christian Art, because, in very many instances, such attributes, symbols, and emblems are the only reliable keys to the dignity and personality of the figures depicted.

Attributes in art are objects or devices attributed to deities, celestial personages, or human beings, for the purpose of distinctly conveying to the mind their chief characteristics, qualities, ranks, and dignities; and also for the purpose, in certain instances, of setting forth some great or distinguishing events connected with their lives. Attributes are, strictly considered, neither symbols nor emblems of the personages invested with them. But an attribute may be both an attribute of a person and an

Fig. 1
St. John the Baptist
From Chartres
Cathedral

emblem of something altogether distinct from, or in some way, directly or indirectly, connected with that person; or, in certain rarer instances, it may be threefold in its office, assuming the form of an attribute proper, a symbol, and an emblem.

Of the pure attributes used in Christian art, those which express divinity and a state of holiness more or less exalted are of the first importance; we allude to the nimbus and the aureole.

Neither the nimbus nor the aureole can be considered symbols or emblems, for they express nothing when used alone. They are simply attributes, whether used in connection with figures or portraitures, or applied to symbols to signify the divinity or holiness of the personages set forth by them. For instance, a plain circle or disc by itself conveys no particular idea to the mind; but when we meet with it placed behind the head of a figure or symbolic

Fig. 2.

creature, as in Fig. 1, it becomes the attribute expressive of divinity or holiness, as attendant circumstances permit.

The illustration (Fig. 1) serves admirably to explain what has been said above, for it comprises both special and general attributes, and also presents both a personage and a symbol invested with attributes. The figure is that of St. John the Baptist, from the north porch of Chartres Cathedral. The circular disc behind the head of St. John is the general attribute of all the saints—the nimbus, expressive of holiness. The lamb with the cross and banner, which the saint carries in his arms, is the special or individual attribute of St. John the Bapist, given to him in allusion to his words, "Behold the Lamb of God, which taketh away the sin of the world" (St. John i. 29). The lamb itself is the symbol of our Lord, and is placed in a circular aureole, the special attribute of the Deity, and expressive of supreme power and divine omnipotence. The lamb is also the emblem of meekness and gentleness, but here its emblematical significance is absorbed in the superior symbolism.

Besides the chief attributes already alluded to—the nimbus and aureole—numerous others are met with in Christian iconography. The Persons of the Blessed Trinity, the nine choirs of angels, and evangelists, the apostles, the martyrs, the lesser saints, and all the blessed are invested or associated with attributes specially alluding to their divinity, dignities, ranks, offices, sufferings, rewards, and their celestial state. It is quite obvious, therefore, that a full knowledge of such attributes, which everywhere abound in the iconographic works of the artists of the Middle Ages, is essential to the student of Christian art; and, as the attributes

are generally symbols, emblems, or the insignia of something which renders them appropriate to the persons invested with them, their exact significance should be carefully ascertained and considered.

The use of attributes in connection with the representations of important personages has obtained in all periods of art; and there is no doubt that the early Christian artists simply followed the practice which was so obvious in classic art, and which they were more or less intimately acquainted with. In Greek art attributes were freely used in representations of mythological personages; and in it we find an early use, although in all probability not the original use, of the nimbus as the sign of divinity.

The Nimbus.

The nimbus, in its more correct treatment, is a disc or flat plate of different forms, placed behind or around the heads of the persons invested with it, and is intended to convey the idea of light or effulgence emanating from the head in a supernatural manner, and so indicating divinity or holiness. In late art much of the force of this idea is lost by a change in the form of the attribute to a ring of light, placed some distance from the head, and as if suspended above it.

It is difficult to overrate the importance of the nimbus in Christian art, for we find it universally used by artists of all countries, in sculpture, painting,

Fig. 3.—From the celebrated "Sainte Face de Laon," in the Cathedral of Laon, France.

and stained glass, as a peculiar insignia or proof of holiness. As a crown denotes a sovereign or royal personage, so does a nimbus distinguish a divine or a holy person by its presence. As a herald can tell the rank of him who wears a crown by the shape and ornamentation of the diadem, so can the student of Christian iconography tell the divinity or the degree of holiness of the personage invested with a nimbus by the shape and ornamentation of that attribute. Like the crown, the nimbus encircles the head,

Fig. 4.—The Holy Trinity. From a French Manuscript of the Fourteenth Century.

although in a different manner. The crown rests upon the head horizontally, while the nimbus is placed on edge, or vertically, behind the head, enclosing it in a field or halo of light. This rule, however, was only consistently observed in Western Christendom up to about the end of the fifteenth century; during the two following centuries an unadorned circlet or ring usually took the place of the circlet or disc, as has already been mentioned. With the decadence of religious art the nimbus entirely disappeared, to be revived with the revival of Christian art in our own times. I have spoken of the nimbus as if it invariably applied to the head, but it will be shown in my future remarks that it was not exclusively confined to that member, although I am not aware of any example existing in which it is applied to another part of the body when the entire figure is represented.

When and where the nimbus was first introduced as an attribute, distinctive of deification, is quite uncertain, but beyond doubt it was used long before the Christian era. Its origin is also unknown, although it is not a difficult matter to surmise it from an examination of examples of its application and the forms it assumed in Pagan art. With reference to its probable origin, I may quote the words of the late Mr. Gilbert J. French:—

"The sun is of all natural objects that which uneducated humanity has, in every age and in almost all climes, looked upon with the greatest awe and reverence. Before the glorious rays of its light and heat—the apparent material source of life and vegetation—men willingly bent themselves in adoration: and, even when reason and education

had somewhat influenced them with a knowledge of a spiritual power by which the sun itself was created and controlled, many nations retained that luminary as the visible sign or emblem of the unseen God to whom, through it, they continued to offer sacrifice and worship. Rays of fire or of light thus naturally became emblems of divine power. The statues of Pagan deities were clothed or armed with fiery emanations. Jupiter bore the lightning, Apollo was crowned with sunbeams, and Diana wore the crescent moon as a diadem. . . . But, whatever its origin, the nimbus or glory on the heads of powerful or pious persons was a well-understood symbol before the advent of Christ upon earth."

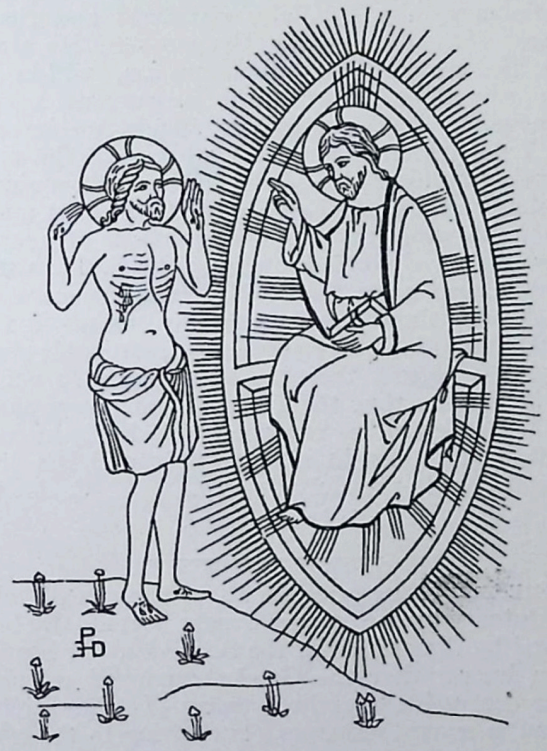


Fig. 5.—From a Fourteenth Century copy of "Speculum Humanæ Salvationis."

Turning now to Christian art, we find the same idea supported in a curious and unique manner by two figures depicted in a stained glass window of the twelfth century, in the church of St. Rémi at Rheims. The subject is the Crucifixion, with the Blessed Virgin and St. John the Evangelist standing beside the Cross. Both the Saints are invested with the ordinary circular nimbus, but with the very strange addition of two sunflowers, which rise up out of the upper portion of the disc and bend toward the right and left like floral plumes. Didron, the great French archæologist, speaking of these examples, says:—"Occasionally, as at St. Rémi at Rheims, in the circumference of the nimbus are inserted two stalks bearing sunflowers, the flower which in the vegetable kingdom is considered a symbol of the sun, or the light of which the sun is the source." It certainly appears from this rare iconographic work that Christian artists in the twelfth century, to some extent at least, recognised the early origin of the attributes and desired to direct attention to them, without adopting the conventional sun-like, many-rayed form which obtains in classic art, notably in representations of Apollo and impersonations of the sun.

The Nimbi of the Persons of the Trinity.

The Divine nimbus, or the treatment of the attribute used to designate the Persons of the Holy Trinity, first claims the attention of the student of Christian iconography. What seems to us to be a strange misconception of its signification in respect to its distinctive feature obtains in the writings of all the archæologists who have treated of the subject of Christian symbolism, and we shall endeavour to put the student in the right path in this important matter. The distinctive feature alluded to is its tri-radiated field. It is here desirable to state, so as to prevent any confusion in the student's mind, that in using the term "field" we allude to all that portion of the nimbus which lies between the outline of the invested head and the border line or margin. The term "margin" must be understood to signify a portion of greater or lesser width in the form of a border surrounding the field. Nimbi are frequently met with in art without a margin of any description, while at other times they are enriched by broad, ornamented, and inscribed margins, giving them a highly decorative character, though one to some extent destructive of the original intention of the attribute.

The treatment of the Divine nimbus, with its distinctive tri-radiated field, is well shown in the accompanying illustration, Fig. 3, from the celebrated "Sainte Face de Laon"—a painting on cloth, representing the sudarium of St. Veronica, preserved in the treasury of the Cathedral of Laon, in France. The original is evidently of Byzantine origin, and is said to have been venerated in France since the thirteenth century. It will be observed that the field of the nimbus surrounding the Saviour's head is circular, having no margin, with one vertical and two horizontal bars or rays extending from the head to the circumference. Let it also be noted that, although there is a considerable space unoccupied immediately under the face, no attempt has been made by the artist to indicate a fourth bar or ray with the view of suggesting a cross.

It has for a long time been believed by students of Christian art that the nimbus common to the three Persons of the Trinity is "cruciform"; that is, that the three rays on its field form portions of a Greek cross, the remaining portion, or lower limb, being hidden by the head or neck of the Person invested.

Didron, who was so great an authority on Christian iconography and symbolism, although he accepted the popular belief, does not seem to have been quite clear in his mind on the subject of the Divine attribute. In writing on the question, he says:—"God,

like the angels and saints, is invested with a circular nimbus or disc ; but to distinguish the Creator from His creatures the field of the Divine nimbus is divided by two bars, which intersect in the centre, and form a Greek cross. One of the bars, at the foot of the cross, is concealed at the head, which appears to rest upon it. The three others, which are visible, extend vertically from the summit of the head and horizontally from the temples." Now he expresses a doubt which has forced itself upon his mind. "It seems doubtful whether it was really intended to decorate the field of the nimbus of God with the Cross ; probably the ornament which marks the nimbi of Divine persons is not derived, as has been imagined, from the instrument on which Jesus Christ died." Notwithstanding the importance and the reasonableness of this doubt, Didron, in all his writings, speaks of the crossed or cruciform nimbus.

In whatever way the question may present itself to the student's mind, it cannot be a matter of surprise that the rays on the Divine attribute should have been supposed to represent a cross, particularly as the portraitures of Christ prevalent in all the great epochs of Christian art were almost invariably invested with nimbi displaying them. Had this peculiar attribute been strictly confined to the head of the Saviour, there would be little occasion to doubt its being cruciform ; but such was very far from being the case, for we find all the Persons of the Trinity alike invested with it, and, in most instances, without the slightest variation. A good illustration of this practice is furnished by a miniature in a French manuscript of the fourteenth century, an outline of which is given in Fig. 4. The pertinent question now arises, Why should the Father and the Holy Spirit bear the Cross on their nimbi, a symbol which is recognised throughout all departments of art as peculiarly connected with Christ, and expressive of His suffering and atonement ? In consequence of the difficulty experienced in answering the question, the following suggestion is worthy of careful consideration :—May not the three rays (for in correct examples there are never four rays, completing a cross) on the field of the nimbus allude to the Holy Trinity, or the three-fold individuality of the Deity ? Under such a supposition the attribute becomes perfectly appropriate to each of the Persons of the Godhead, and each one is equally entitled to it under the rules of strict symbolism.

One who is at all conversant with the methods of the mediæval artists can hardly look upon the miniature, Fig. 4, without being disposed to doubt the cruciform character of the three nimbi there delineated. The nimbus of each Person is tri-radiated, and in all respects similar to the others. The intention of the artist was surely to demonstrate by the three rays on the field of each nimbus that each Person depicted was invested with the power and glory, as well as the identity of the other Persons of the Godhead. Had a cross been intended it would have been confined to the nimbus of God the Son, and there would have been no reason for Him to be delineated holding the instrument of His passion in His hand.

In Fig. 5 a curious drawing from the fourteenth century copy of the "Speculum Humanæ Salvationis," two Persons of the Trinity are represented in a manner which seems to point very clearly to the non-cruciform character of the Divine nimbus. Here God the Father is represented seated within a lenticular aureole, and invested with the nimbus. Standing before him is God the Son, showing His pierced and bleeding hands and feet and wounded side. God the Son is invested with a nimbus in all respects identical with that of God the Father. Had our Saviour alone been invested with the form of nimbus under review, there would be perfect consistency in a cruciform character and significance ; for, in displaying His wounds, He would alse be presenting a representation, within the halo round his head, of the instrument of His atonement. As the miniature stands, we have to ask ourselves why, and with what aim, the artist likewise represented God the Father with a similar nimbus ? Here, most certainly, if the artist understood the three rays to form portions of a cross, he would have avoided investing the Father with a nimbus displaying them. Knowing the care and consistency shown by the mediæval artists in their works, we think there can be no reasonable doubt of this. Instead, therefore, of desiring to convey an impression that the Father in any way shared in the Passion of the Son, the artist clearly intended to show forth the divinity of Christ and His direct relationship to the Holy Trinity. C. A .A.

(To be continued.)

THE interesting question as to the use of colour on statuary by the ancient Greeks is gradually being solved by discoveries on the Acropolis. It has long been known that the Greeks employed colour on their decorative bas-reliefs, traces of it having been found in several instances ; but, owing to the effects of weather and time, very little could be said with certainty as to the principles by which they were governed in the application of it. The finds, however, include several well-preserved archaic figures of goddesses, which leave no doubt that colour was only sparingly employed. The flesh is untouched by colour excepting a line or so of carmine under the eyelids and between the lips. The hair is coloured red, as in most of the terra-cottas which we receive from Tanagra and Athens. A sort of diadem which they wear is completely covered with spots of blue, green, and black, occasionally outlined with gold. On the drapery around the neck is painted a large meander or other ornament in purple, and elsewhere it is dotted with crosses in green or black. These figures are of the time of Pisitratides, and were overturned and buried before the burning of the Acropolis by Xerxes. They show a totally different conception of the use of colour on statuary from that entertained by the Egyptians and Assyrians, and it is probable that in the best period it was employed with yet greater moderation.

Marquetry.

BY A. C. HORTH.

MARQUETRY is the name given to the more elaborate forms of inlaying, it differs from ordinary inlay work in so much that one is the art of cutting a recess to receive another piece of wood, while marquetry is practically a form of fret cutting.

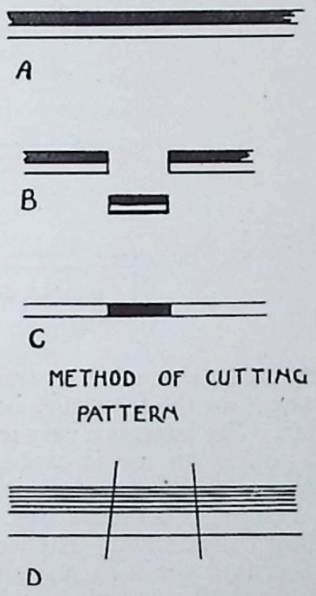


Fig. 1.

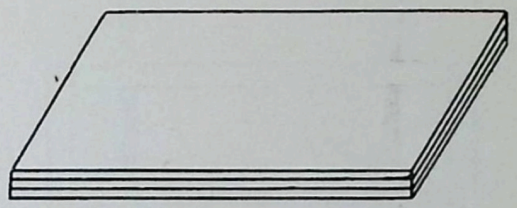
The process is in itself simple. For instance, in making a panel, showing a design in dark wood on a light ground, two pieces of wood are fastened together with paper in between—one light piece and a dark piece. The design is traced on and the lines sawn in the same way as in fretwork. The wood is split apart, and the dark cut-out portion fitted into the light ground, or the light showing against the dark ground. This is illustrated in the diagrams, A, B, and C (Fig. 1).

The tools required are few in number, but the worker will require a strong press and a marquetry cutter's donkey, which will have to be made from the dimensions given further on.

The presses should be strong, and are used in connection with "cauls," these being flat boards between which the marquetry panel is placed. The old-fashioned linen press, shown in Fig. 2, is a very useful form of press, quite large enough for ordinary work, the writer having used one for some years with success.

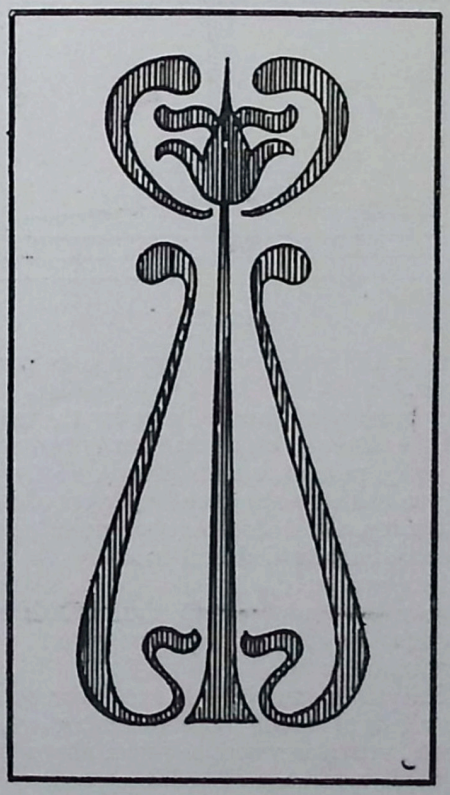
The saw frames are an important part of the outfit, and, although the ordinary steel frame fretsaw is useful for ordinary work, the wooden frame will be found most convenient. The blade may be pulled to the right tension by means of the string at the end. (Figs. 3A and 3B.)

Small work may be sawn on the table; but this is not suitable for intricate work. (Fig. 4.) The saw blades should be of good quality, either the Griffin or Star make. The numbers run from 000 upwards, the finest saw being 000. The most useful numbers for the marquetry cutter are 00, 0, 1 and 2. But,



VENEER IN LAYERS

of course, much depends on the work itself. A bradawl or drill is necessary to provide a hole for the saw blade to start sawing in.



SIMPLE MARQUETRY PANEL

Glue.—This most important item in the marquetry cutter's outfit is often very little considered, and yet so much depends on it. A light French glue will be found most suitable, and only just

enough should be made up for the work in hand. Every time glue is reheated it loses some of its virtue, so that it will be found more economical to boil up a little at a time. The best way to make it is to place some in a saucer or basin, cover it with water and leave it overnight. By the morning the glue will have absorbed a considerable amount of the water, and it should then be placed in the glue pot and boiled.

When gluing up very light inlays where the dark colour of the glue would show through, flake white should be mixed with it. In fact, any shade may

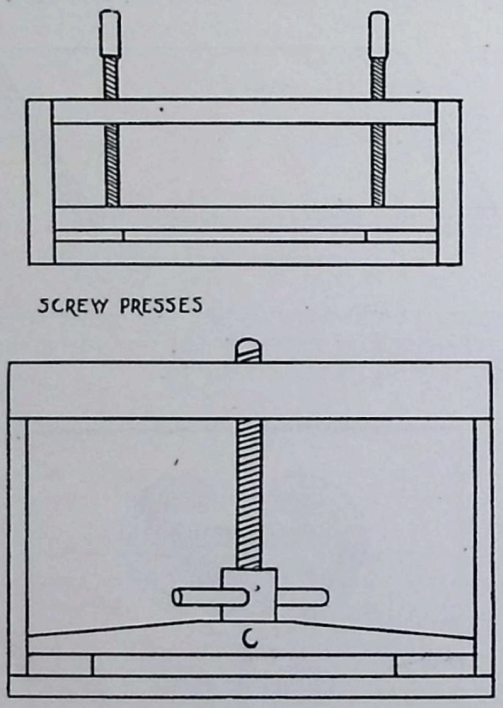


Fig. 2.

be given to the glue by mixing in a colour in the same way.

A very convenient form of glue for the marquetry work is Le Page's, an American preparation; it is thoroughly reliable, and is always ready for use. Liquid glue has a great advantage over ordinary glue for marquetry, for it does not set quickly, and the setting may be retarded still more by the addition of a little glycerine.

We may now proceed to the consideration of the veneers, for the marquetry cutter works in thin veneers only.

Ash, holly, lime, maple, oak, sycamore, satinwood, box are all light woods. Cedar, mahogany, cherry, pitch pine, yew, rosewood, sequoia, amboyna, tulip wood, purple wood are all reddish woods. Walnut, lignum vitæ, and ebony are dark. The worker may purchase stained veneers of any colour; but, as far as possible, the natural colours should be used.

Having decided on a simple drawing, such as the one suggested in our illustration, we may proceed to the methods of work. We will take two pieces of veneer, and will use walnut and mahogany, and show the design in mahogany on a walnut ground. Cut the veneers to the same size, and on the walnut veneer place a piece of paper, smeared over with tallow, both sides, and place on it the mahogany veneer. The veneers should be pinned together with veneer pins, and are then ready. The design should now be drawn on to the top piece; it may either be

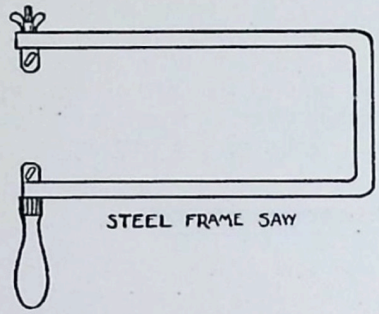


Fig. 3A.

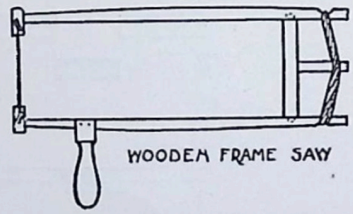


Fig. 3B.

drawn directly on to the wood, or traced with carbon transfer paper, or the lines may be pricked and then pounced in. The latter is a very useful method, and the best powder to use is asphalte, a brown pitchy substance which easily powders. The powder should be put in a muslin bag, and then the bag is passed over the design. The work should be held near a fire until the heat melts the asphalte. On very dark wood the ground should be prepared by chalking first.

The work is now ready for sawing, and here the donkey is required. A glance at the illustration will show the use of it. The worker may sit astride or sideway as most convenient. The work should be placed between the jaws, and the foot pressed on the treadle; this tightens up the jaws and holds the work quite firm. A fine saw should be chosen, and a hole just large enough to take the blade bored in a convenient part. The saw should be carefully inserted and the blade fastened and tightened up. However fine the saw, a certain thickness

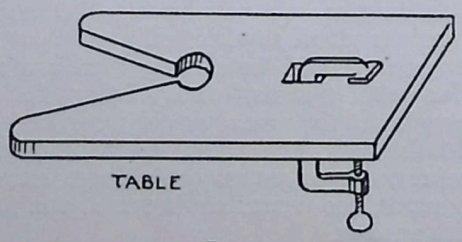


Fig. 4.

of kerf is sure to result, so that to ensure a nice fit the blade should be held at a bevel, as shown at D (Fig. 1). It will be seen that, when cut out at this bevel, the underneath piece will fit in tightly; whereas, if there were no bevel, the thickness of the saw cut

would make the joint loose. When the sawing is finished, the pieces should be taken apart and laid carefully on a table; the ground piece should be taken first, and glued on a piece of newspaper. It will be found advisable to use a liquid glue, and glue the piece of paper first. The several pieces of inlay should be placed in position and pressed down, and when all are in their place the veneer may be placed under the press until dry.

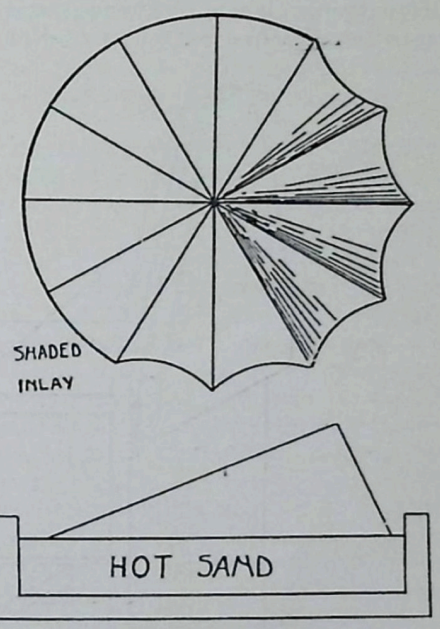
The appearance of the work at this stage is nothing to be proud of, however well it is done; but, when it is laid and cleaned up, it will present a far different appearance. When the glue is quite set, the veneer is ready for laying on the foundation. The base should be pine or mahogany, and should be sized first. This sizing prevents the glue being absorbed by the pores of the wood, and thus weakening the joint. The inlay should be toothed at the back, and then the foundation prepared in the same way; the glue made quite hot, and two thick boards, larger than the panel and quite flat, placed before the fire to get thoroughly hot. These boards are called cauls.

The foundation and panel should now be quickly covered with hot glue, and then pressed together, being rubbed over with a veneering hammer to press out all the surplus glue. The work should next be placed between the hot cauls and then in the press. The cauls will keep the work warm until all the surplus glue is pressed out, and then, if allowed to dry slowly, will become quite firm. Of course, a piece of oiled newspaper should be placed on the top to prevent the panel sticking to the caul. When the glue is set, remove the work, and leave a day or so, until quite hardened. A toothing plane should be used to take off any adhering paper or projections of glue, and then the surface should be thoroughly scraped and glasspapered until the desired surface is reached. If it is found that some of the joints are not quite filled in, this should be done before the final finish. A favourite method of filling up such places is to use a mixture of glue and sawdust, coloured to match the wood. The sawdust should be very fine, and used sparingly. A patent stopping or filling may be purchased, which requires warming before being pressed into the holes.

Another part of marquetry work to be considered is the use of hot sand in shading light wood, such as lime, holly, chestnut, or sycamore. This method is very commonly used, and is so simple that any worker may make his own shaded inlays. A circular centre-piece, with a few sections shaded, is shown in Fig. 5, and underneath may be seen a section of an iron box containing sand. This should be heated over a stove or gas flame, and the pieces placed in the sand. It will be advisable to use a pair of tweezers to pull the wood out and save the fingers.

The pieces should be constantly withdrawn and reinserted to get a well graduated shade, and it should be borne in mind that not only should the shading be carefully done, but all the pieces should be of the same tone. The marquetry cutter, after some practice, may attempt some fine work where lines are suggested which are hardly thicker than the saw blade. In such cases it is impossible to cut corresponding pieces in the under-piece, at least not with satisfaction, and it is necessary to use shavings of the required colour, and insert these in the saw cuts and clean off afterwards; the finest lines may be treated in this way with first-rate results.

There are other materials used by marquetry workers beside wood, such as metal, mother of



METHOD OF SHADING

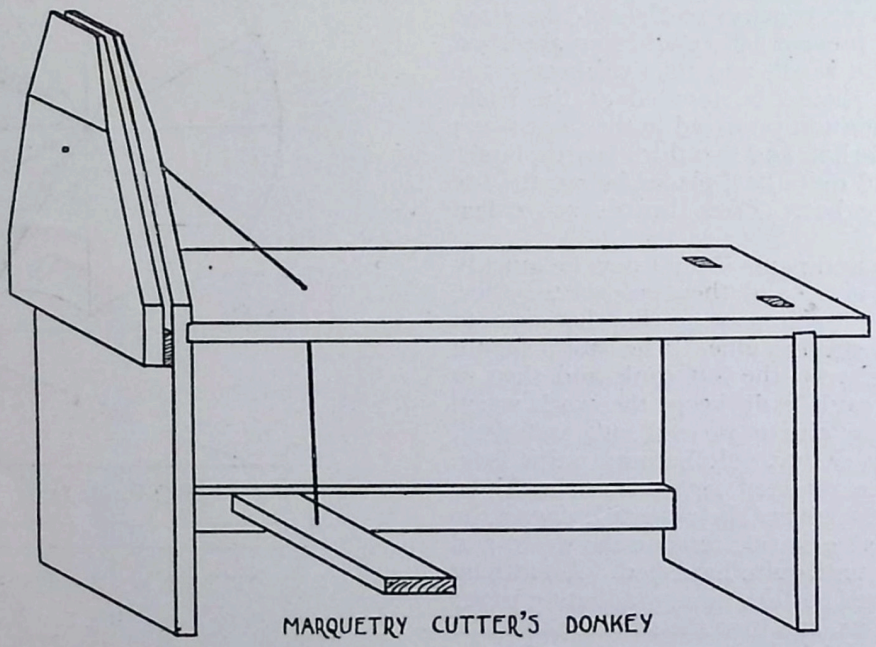
Fig. 5.

pearl, tortoiseshell, and xylonite; but, as the general principles of working are the same, there is no need for much more explanation. In sawing very thin metal, it will be found advisable to saw it between two pieces of wood. With thicker metal, however, it will not be necessary to do this; the saw will require lubricating with beeswax, oil being liable to discolour the wood. In gluing down metal, use either a little Venice turps, or some powdered resin with the glue; and in fastening down xylonite inlays, the cement sold by the manufacturers for the purpose must be used, ordinary glue being useless. The last thing we may consider is the donkey. This should be about the height of an ordinary chair, and the length of the seat about 2 ft. or 2 ft. 6 in., and the height of the jaws from the seat about 1 ft. 5 in. or 1 ft. 6 in. The seat should be 1 ft. 6 in. from the floor, and its width about 12 in. or 14 in. The jaws should taper to about 3 in. at the top. The wood should be about $1\frac{1}{4}$ in. or $1\frac{1}{2}$ in. thick; but the front board need not be more than $\frac{3}{4}$ in. thick. The front board should have some spring; this may be given by making the small piece at the bottom of the front board slightly bevelled, say $\frac{1}{2}$ in. at the top and $\frac{1}{16}$ in. smaller at the bottom. When the board is

screwed on to this, the top will be more than ½ in. away, but will, when pulled up tightly with the treadle, meet quite tightly.

We have now gone through the process of marquetry cutting, described the apparatus and tools, and must now leave the worker to practise. The first pieces will, no doubt, be unsuccessful, but any good fretworker will find no difficulty, and really the work is natural sequence of practise in fretwork.

Workers should visit the South Kensington Museum and see the beautiful marquetry work of David Roentgen, Oeben, Riesener, and Jansen, not to mention the fine examples of Boulle work.



MARQUETRY CUTTER'S DONKEY

Several excellent examples of marquetry are to be seen in the Wallace collection, and every marquetry cutter is strongly advised, after a few attempts at the work, to pay a visit to both the Jones collection at South Kensington and the Wallace collection; the time spent will be worth an apprenticeship.

Many easy marquetry designs have appeared in these pages from time to time, and the worker will often be able to adopt designs to his special purpose; and when one considers the small outlay required for tools and material, it is surprising that there are not more workers in such a beautiful and delightful craft.

Intarsia is the name given to that branch of marquetry which may be described as the art of producing pictorial effects in wood. It is a favourite method of making panels, and some excellent effects may be produced. The natural colours of the wood as well as the peculiarities of grain should be well considered, and it will often be found that thin pieces cut off the end grain of many woods will often be most useful. Simple landscapes, animals, and birds are easily worked out, but in making designs for intarsia, the lines should be as simple and effective as possible. Many suggestions for panels may be gathered from the specimens to be seen in the museums.

A. C. Horth.

Crayon Drawing on Stone.

To a skilful draughtsman with the crayon, the stone offers the widest variety of possibilities. Extreme freedom on the one hand, and the subtlest refinement of finish on the other; colour, in its richest and deepest harmony, and light, in its most tender inflections, are equally at his call, for the art of lithography offers greater variety than many mediums which are more favoured by modern artists. All that etching gives of suggestiveness the stone will give, and, while it does not perhaps reach the organic power and force of colour of which an etched plate is capable, it certainly does not fall far behind it. Calame, who was as expert a lithographer in crayon as ever lived, and who was also an etcher of masterly skill, abandoned the latter art for the former, because he could secure by lithography effects denied him by the aqua-fortis.

The foundation upon which the artist in crayon relies for his effects on the stone is the mechanical preparation of the surface itself. For large, bold, and vigorous effects, the surface may be levelled or grained, as it is technically termed, with coarser sand than the smaller and more delicate designs demand. The graining, while apparently a simple process enough, still calls for a certain amount of skill on the part of the labourer who performs it. The stone is set on a table with a trough top. Sand is strewn over it, and moistened with water. Then the stone grinder, with another and harder stone than that to be drawn upon, works over and over the surface, adding more sand and more water until he has produced, by the attrition of the grains of sand, a level and granulated face to the stone. This face must be free from scratches and even in its grain, whether the latter be coarse or fine. The

grain must also have sufficient depth to allow the crayon its play upon the surface, without clogging in the space between the raised points of the stone.

Remarkably harmonious effects are sometimes produced on a stone of varying grain. For instance, the portion intended for a sky may be grained somewhat finer than that intended for the landscape. The same process has been applied to figure compositions, giving especial softness to the faces, and leaving the grain for the figures of a bolder and stronger cast. Some of the harder lithographic stones have been given an excellent and even crayon grain, with modulations from coarse to fine, by the sand blast. Zinc plates, which for artistic purposes may be utilised in the place of stone, have also been prepared under the sand blast. The great difficulty formerly with graining zinc for crayon work was that an even grain was hard to procure, and that the drawing etched unevenly in consequence, and also of the liability of the plate to scratches. The sand blast now secures the necessary symmetry and precision, and amateurs experimenting in lithographic effects will find it sometimes convenient to resort to the lighter, cheaper, and more easily transported zinc plates, whose drawing may, if necessary, be transferred to stone for printing Many lithographic establishments, I may here remark, avoid the cost and bulkiness of storage required for stones by having those designs which they are compelled to preserve made on zinc and printed from transfers. Zinc is also extensively used for making tint plates in chromo-lithography.

However, while zinc is available for bold and free effects, the more subtle and delicate finish of which stone is capable is denied it. In certain directions it is a convenient makeshift. A substitute it will never actually be.

The crayon used in drawing upon stone varies, like the lead pencil, in its degrees of hardness. Its greasy composition gives it a tenderer feeling in the fingers than the hard crayon used in drawing on paper, but in a general way its method of use is about the same. Soft effects with a hard crayon and strong effects with a soft one are the programme. To reinforce the deep and rich effects of the softest crayon the lithographer has also an ink composed of the same substance as the crayon, with which solid blacks may be laid on with the brush and dark masses accented with touches of brush or pen. While the crayon only blackens the surface of the grain, leaving the hollows between it untouched, the ink fills hollows, and covers surface grain also, and so produces an even mass of colour. Variations of the inky mass itself may be produced by scraping the surface of the grain with a steel scraper, and white lines, spots, and masses may be scraped from broad planes of ink or crayon by the same implement.

Experts in lithography frequently use for large and bold effects a large crayon with which they can cover extensive surfaces of stone with a tint of varying intensity that it might be tedious to work up to with the small point. This rubbing crayon is, of course, only the ordinary softer crayon moulded into a large bar. With ink to produce the dead blacks and a scraper to secure the half tints and high lights, results of great artistic beauty and strength are obtained. Sometimes from stones covered with ink the scraper is made to produce powerful and brilliant effects, but this is a feat reserved only for the most expert and certain hands. The ink and the rubbing crayon find their most extensive employment in the production of tint stones or colour stones for chromatic prints. Much of the colour work in the artistic supplements of some of the illustrated weeklies is made with the ink brush and the rubbing crayon, but the actual drawing and detail of the pictures depend upon the pencil-pointed crayon itself.

It must be remembered that corrections of a design on a grained stone are virtually impossible. Amateurs expert at rapid pencil sketching may apply the same skill to crayon drawing on stone, but where positive accuracy is required, as in figure subjects or portraits, a drawing on paper should be prepared first. This may then be traced with red chalk upon the surface of the stone, thus affording the artist an outline as a guide. As all drawings on stone naturally print reversed, the use of a tracing in reversing a drawing which it is desired to have printed in the same face as the original will be manifest. The paper to transfer the design may be prepared by anyone by scraping a powder of dry, hard red chalk on a sheet of paper, and rubbing it to an even surface. This being placed face down on the stone, any lines indented over it with a hard pencil or a blunt steel point, called a tracing-needle, will be found clearly marked in red on the grain of the stone.

In the same fashion, the sketcher upon stone may, if he chooses, fix the masses and proportions of his composition when he has a freehand drawing in contemplation. As grease alone affects the lithographic stone, the red chalk lines wash off when the drawing is etched for printing. It is well to bear in mind that a touch of a finger or a fragment of crayon dropped on the stone may lead to a smudge or blot, and so one must take care to preserve the purity of the surface. The point to observe is that every touch of the crayon will tell, and that while it is possible at times to correct a mistake, it is always a difficult operation, and rarely fails to leave some trace of itself. When it comes to elaborate and carefully finished designs, they call for an almost plodding method, and a care that verges on the tiresome; but these would hardly fall within the limits of an amateur's lithographic experiments. The beauty of the effects and the rapid and spirited possibilities of the execution of the lithographic drawing are what invite the artist and the amateur to it, not its merely mechanical elegancies of finish and of finicality, which properly belong to the trade branch of the art.

Crayons, ink, and all the other requirements of lithography may be procured from the artists' material stores. Stones grained to any degree of fineness required may also be ordered. The French

DOOR KNOCKER (BRONZE ARGENTO).

BY ALFRED STEVENS.

(From the Permanent Collection, Leeds City Art Gallery.)

crayons preserve the evenest grade, and the French ink is of the most fluent and even quality. The German ink and crayons are also good. The crayon, it may be of interest to know, is a combination of white wax (3 parts), hard soap (2 parts), shellac (1 part), drops of mastic (½ part), tallow (1 part), old lard (½ part), Venetian turpentine (¼ part), Brunswick black (¼ part), carbonate of soda (½ part), Paris black (1½ part). This concoction is melted into perfect fluidity and run into sticks, in moulds like short sections of lead pencils, to harden. It is used in a porte-crayon, and in sharpening is cut in from the point, reversing the method of sharpening a lead pencil, to prevent its breaking. The ink has 2 parts of white wax, 2 shellac, 1 hard soap, ½ tallow, ¼ carbonated soda, and 1 of Paris black, or sometimes powdered lampblack, though the latter is not as good. This makes a somewhat thick but perfectly free-flowing ink, every line of which tells, and is used with a steel pen, or for broad effects with a camel's hair or sable brush. The same materials that are applied to drawing on stone are used in drawing on zinc, though the final preparation of a zinc plate is slightly different. The mixture used to fix a drawing on stone after it is finished is of nitric acid 2 parts, to from 40 to 60 parts of gum-arabic in solution, according to the delicacy of the drawing and the softness of the stone. It is floated over the surface so as to cover it entirely, and allowed to dry sufficiently to fix the picture, when it is washed off with clear water and a soft sponge, and the stone is ready for the press.

There are stones and stones. The grades are generally distinguished by colours. For fine crayon work the pearl grey is the best, though for large and free work, the softer, yellowish coloured, which take a large open grain, adapt themselves. Lithographic stones are sold by the pound, and a small extra charge is made for graining them. With a good grain to work on and a sure hand to work on it, the stone itself may be made to perform wonders.

A CURIOUS story was being told about one of Sargent's portraits not long ago. A certain New York lady was not well. She sent for her medical man, but, try as he might, he could not find out what was the matter with her. Still she complained, and the more did the medico think her a hypochondriac. Rather wearied with her, he at last suggested a trip to Europe. This, she said, she would anyway take, as she was going to have her portrait painted by Sargent. The autumn came, and she returned, and when the doctor called she said: "By the way, would you like to see my portrait? It has just arrived and is in the drawing-room. Look in as you go down." The doctor, on entering the room, stood transfixed. The portrait was that of a mad woman—insanity written all over her face, The painter had discovered what the doctor had failed to discern. The unfortunate woman died, within a year, a raving maniac.

Practical Talks about Wood-carving.

BY HERBERT TURNER.

V.—Notes on Joints for Wood-carving.

A CORRESPONDENT, R. J. K., of Ballymoney, Ireland, writes as follows:—"I live in a country town, and, consequently, have not the same advantages as those who reside in large towns. My difficulty is that I do not know how to fit the joints together for articles that have to be carved. Can you do anything to help me?"

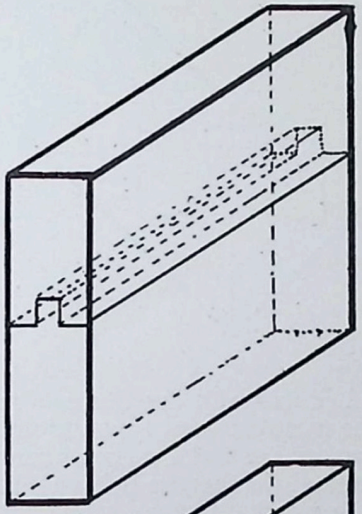


Fig. 1.

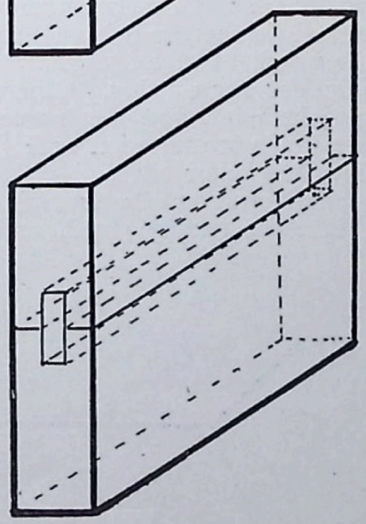


Fig. 2.

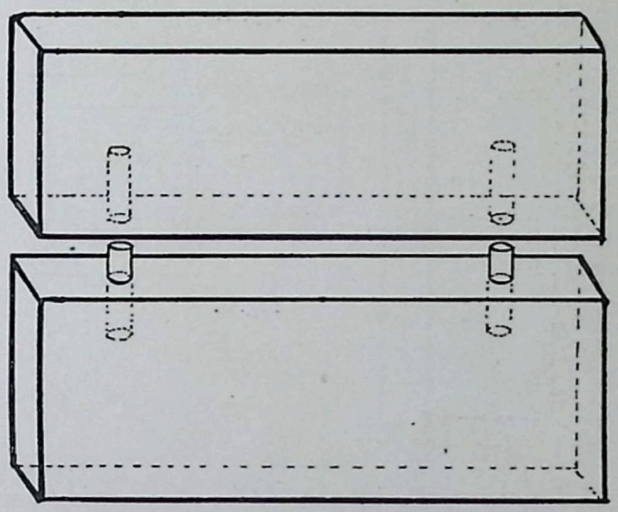


Fig. 3.

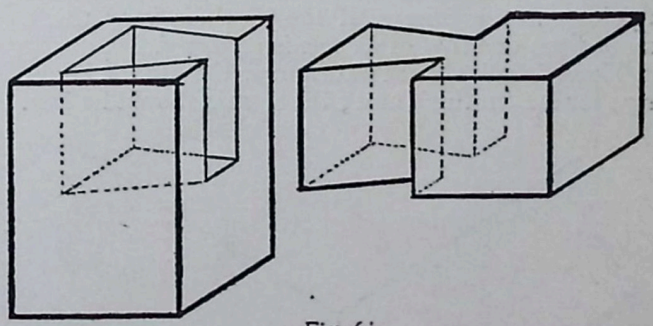


Fig. 6.

Our correspondent raises a point of much importance to wood-carvers when he asks advice upon how to make joints for wood-carving purposes.

Wood is a material that has its limitations, amongst them being that of size. This is overcome by "jointing" two or more pieces in width, if a large level surface is desired. If a very large space, such as a wall surface, has to be covered, a number of smaller pieces are framed together.

For wood-carving purposes, it is essential that the joints so made shall possess certain qualifications.

They should be made so that the carving will not, if possible, cut down into this joint. If this cannot be avoided, then the joint should be of such a nature that, when cut into, it will not show where the joint is.

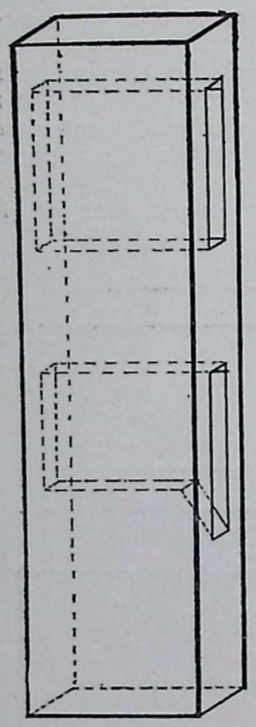
These joints should, too, be made entirely of wood, no screws or nails should enter into their construction.

Sketches are given herewith of some joints commonly employed for carving purposes.

Simple Joints for Boards.

Figs. 1, 2, and 3 show suitable forms of joints for the purpose of making a wide surface by joining narrower boards together. Fig. 1 is the ordinary "groove and tongue" joint. Ordinarily a small space is left between the edge of the tongue and the lower part of the groove, to ensure a good fit on the

surface; but for wood-carving purposes a close fit should be made at all points. Fig. 2 is somewhat similar, but is formed by means of a loose lath inserted in grooves. This is suitable for boards of over 1 in. in thickness. Less thicknesses than this



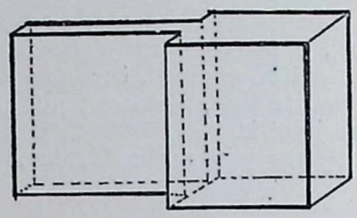


Fig. 4.

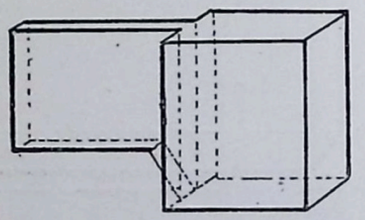


Fig. 5.

can be managed by the ordinary grooving and tonguing planes.

Fig. 3 shows a dowelled joint. This is suitable for very large blocks of wood, say, of over 2 in. in thickness. Sometimes, if the block is very thick, more than one row of dowels is arranged for.

These dowels should be of proportionate thickness, *e.g.*, for a 2-in. thick block the dowels should be ½ in.

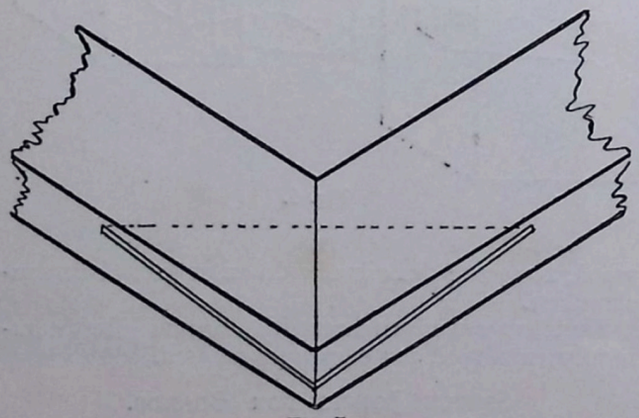


Fig. 7.

thick, and also of a good length. Care should be taken to have the dowel pin the same length as the depth of the holes, and *no less*; or, when cut into, a hole will show, which will be objectionable. All these joints will be fixed together with glue.

Joints for Framed Work.

When we come to framed work, we have recourse to other forms of joints.

Fig. 4 shows a simple mortise and tenon joint, the tenon being made the full width of the wood.

Fig. 5 shows a similar form of joint suitable for an end joint.

These two forms of joint are eminently suitable forms for chests, settles, doors, framing for walls,

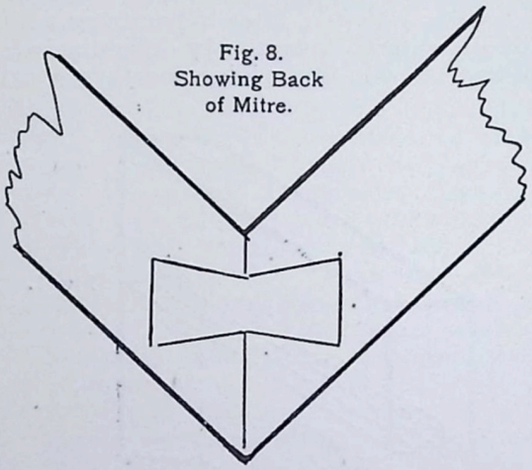


Fig. 8.
Showing Back of Mitre.

hatstands, and dozens of other forms of work. It is, perhaps, the most common type of joint used.

If the framework has to be carved, then we must keep the tenon and the mortise hole well back from the face of the wood, to give sufficient thickness clear of the joint for our carving. Otherwise, we should cut into the joint, and much weaken the framing. These joints are fastened with glue, and are wedged from the outer edge.

Fig. 6 gives an illustration of a dovetail joint for framework. These are simply glued, and should fit perfectly.

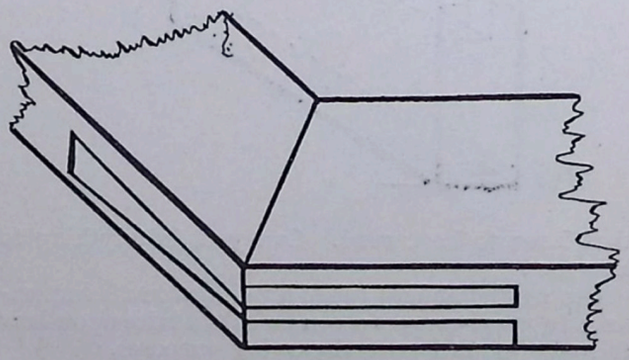


Fig. 10.

Fig. 7 shows a mitred joint. This is the kind generally used for picture frames, which are simply glued and nailed.

But, as we have not to use iron in the construction of our joints, we must fall back upon wood. This

illustration shows what is known as a "feathered mitre." The mitre is made in the ordinary way, and glued up in cramps; then a tenon saw is used, and a saw "calf," or cut, is made across the mitre from the outside edge, and a thin slip of wood in-

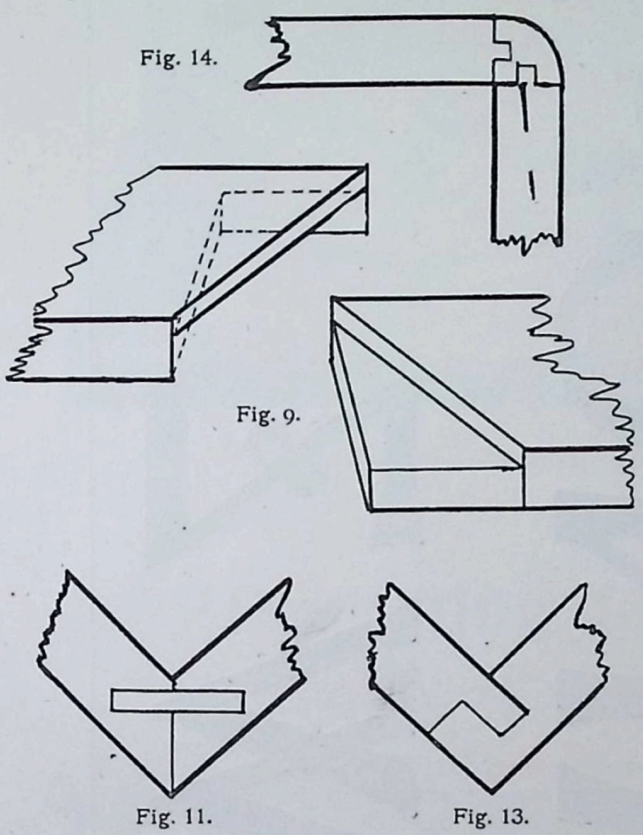


Fig. 14.

Fig. 9.

Fig. 11.

Fig. 13.

serted, well glued. Mitre joints can also be dowelled, as in Fig. 3; or lathed, as in Fig. 2. They can also be keyed at the back, as in Fig. 8, which shows the back of a mitre joint done in this way.

Other methods of making mitred joints for wood-carving purposes are shown in Fig. 9, which is known as a halved mitre joint, and is useful for large frames; and in Fig. 10, which is a dove-tailed mitre joint, and is useful for the same purpose, making a very strong and serviceable joint.

Figs. 11, 12, 13, and 14 show forms of joints suitable for the corners of boxes intended for carving purposes. These joints are all fixed together with glue.

Use the glue thin and hot.

Put just enough on, but no more.

See that all parts of the joint are well covered with glue.

The joints should fit so perfectly that most of the glue is squeezed out, and only just sufficient left to fix the work together. If any reader wishes for any further information relative to any joint here illustrated, or to any joint which is not, I shall be very glad to throw what light I can upon the difficulty.

HERBERT TURNER.

Gilding on Oak.

GILDING oak so as to show the grain of the wood is done much in the same manner as ordinary gilding. The surface is first carefully covered two or three times with good patent or parchment size, which is purchased prepared for the purpose in a convenient form. This is to stop the suction. Plain oak will require more sizing than a painted surface, one coat carefully put on being sufficient for the latter. Each coat must be allowed to dry thoroughly before the next is applied. The size must be used hot, but not allowed to boil. Draw the brush across the grain of the wood. Use a flat camel's-hair brush in tin, about an inch in width; be careful to wash it after use. When the oak panel is quite dry, gold-size it with prepared oil gold size (sold in small pots). The gold size, when not in use, must be kept air-tight. It should be of good quality, for on this, to a great extent, depends the brilliancy of the gilding. When the parchment covering is removed from the pot, stir the contents well, and paint the surface very evenly and thinly with it, crossing it several times, so that the gold size may penetrate the interstices of the grain; but do not allow it to be sufficiently thick to stand in ridges. This must be avoided, or it will never dry properly, and the gold will be spoiled. The operation is best done in the latter part of the day, so as to give the size about twelve hours to dry. The following morning it will be slightly "tacky," but it must not be touched, except to test when it is dry enough, which will be ascertained by the fingers slightly adhering without taking off any of the size. The panel is then ready

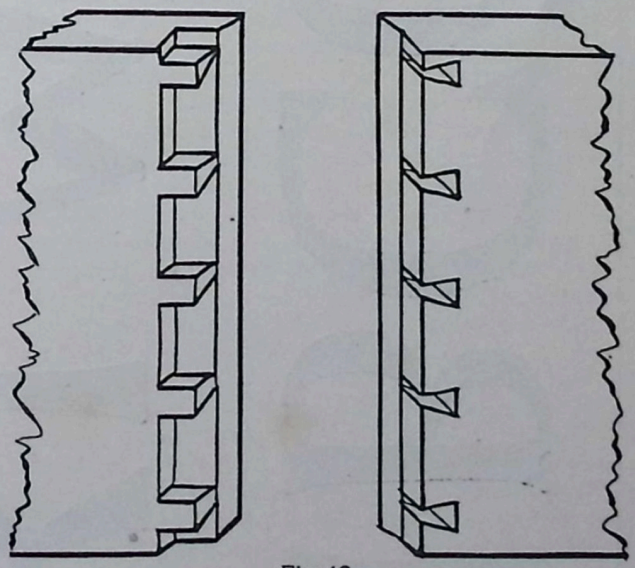
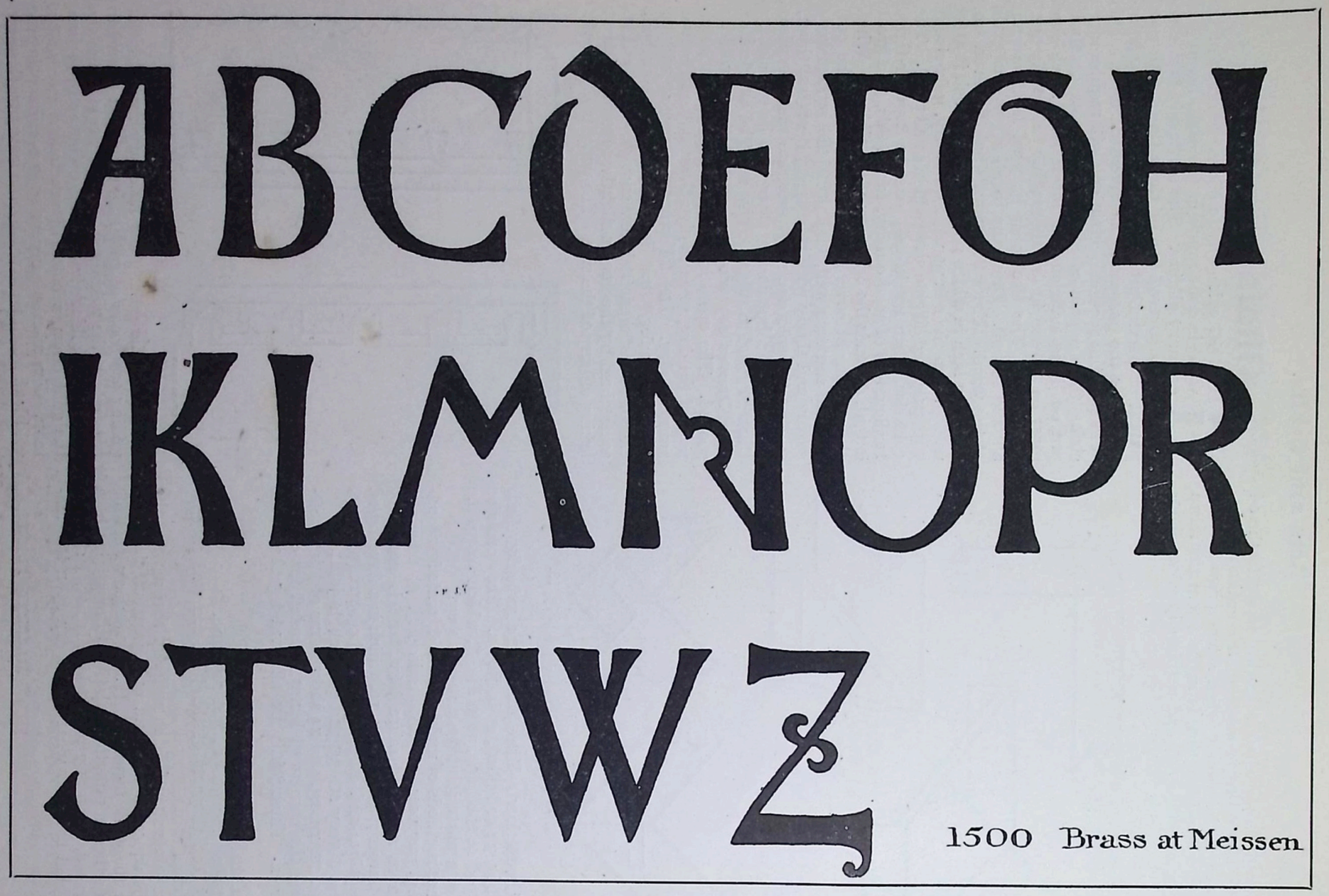
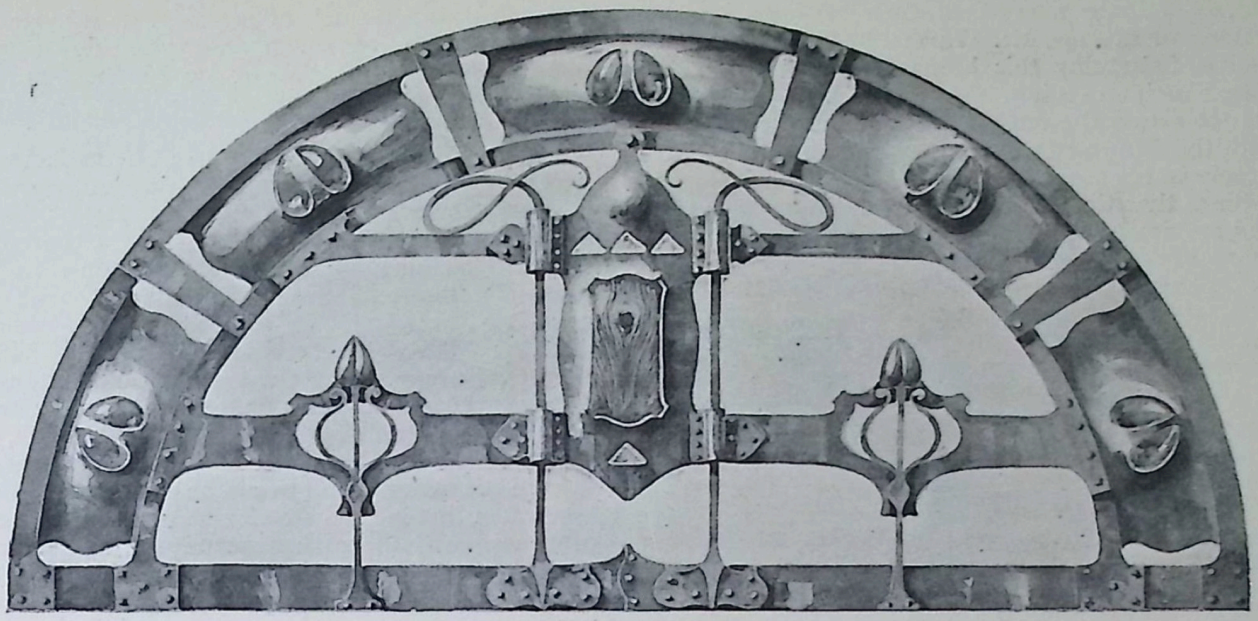


Fig. 12.

to receive the gold. The necessary materials for gilding are books of gold leaf, a cushion or pad to lay and cut the gold upon, a gilder's tip to raise the gold with, a gilder's knife, some cotton wool to press the gold down, a bottle of parchment size, and a mop. Experience is necessary to avoid wasting the gold leaf, which is stirred by the least breath of air.



ALPHABETS FOR ART WORKERS
No. XI. (From the Collection of Mr. GAWTHORP)



COPPER GRILLE, SET WITH ENAMELS. DESIGNED BY E. H. WALKER.

Designing for Metal Work.

ELECTRIC LIGHT AND GAS FITTINGS.

AMONG the many fields open to the designer there is hardly one to be found wherein there is more scope than in connection with designing for gas and electric light fittings. It is a branch for which a considerable amount of technical knowledge is necessary, to be successful; even to attempt designing fittings at all, some insight into the methods of manufacture is absolutely essential.

Naturally, knowledge of workmanship is required by all designers for the crafts, and the greater the knowledge the better the chance of success; but with fittings there are numerous points to be considered, which would probably never occur to the would-be designer. It is not sufficient to merely have a practical acquaintance with the various methods of working metal, as many seem to think.

The advent of electricity has certainly been the cause of a great deal more attention being given to the designing of fittings, yet it has always been a matter of surprise to us as to why this should be, for there is no apparent reason why fittings for gas lighting should not be made quite as decorative as those intended for electric light.

It is true that the latter form of lighting allows rather more freedom in treatment, but this does not seem sufficient reason for the revolution which has taken place in the last few years. Who does not remember the hideous old gas fitting, with its three arms—generally of twisted and decorated tubing, a plain surface of metal being avoided at any cost; its weird, angular cast ornaments of sprays of naturalistic foliage, so impossible to clean and so monotonous to the eye. Yet, though so much improvement has taken place in the designing of electric light fittings, it is strange that the majority of gas fittings produced by the modern manufacturer are almost as bad as they were a generation ago.

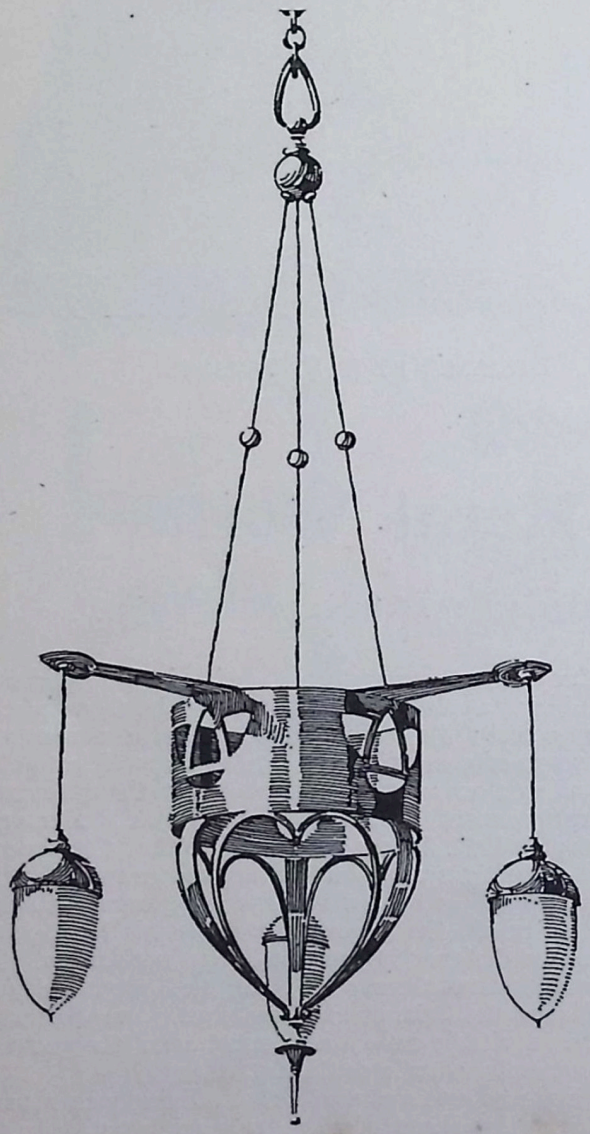
After all, the advantages of electric light, so far as the designer is concerned, are not many. The comparative absence of heat, the opportunity of placing the light at any angle, and the absence of the inevitable tube which must form the gas way, practically completes the list.

It was with a view of obtaining some useful advice for those of our readers interested in this branch of work that we paid a visit to the studio of Mr. E. H. Walker, one of the most successful of our younger designers, who, though devoting himself generally to metal work, has during recent years largely confined his efforts to designing fittings.

Mr. Walker received a thorough training at the Central Art School, Birmingham, where he spent several years studying modelling, drawing, and designing, and subsequently metal work and enamelling. On leaving the school he obtained a post on the designing staff of a large firm of metal workers,

and, as a large portion of their business was the making of fittings, Mr. Walker had ample opportunity of studying this branch from the manufacturer's point of view. He was fortunate in being able to gain a thorough workshop knowledge while with this firm, and this has undoubtedly contributed largely to his success.

Since that time he has worked for numerous firms and architects, and his work is to be found in many



THREE-LIGHT ELECTROLIER, IN COPPER.

DESIGNED BY E. H. WALKER.

of the principal houses and public buildings in this country and in the colonies.

Mr. Walker, during his career, has had many thousands of designs submitted to him by students and even experienced designers, and he says that it is surprising how few were at all possible from the manufacturer's point of view, though on paper some were very beautiful indeed. And these failures were all owing to lack of practical knowledge. In the following notes, which were jotted down during our talk with Mr. Walker, he touches on these weaknesses, and enumerates the chief reasons of failure.

"First in importance, of course," he said, "is the necessity of a knowledge of designing and especially a keen appreciation of beautiful lines. Almost equally important is the necessity of a thoroughly practical training, but this could be gained in time without actually entering a workshop, though that course is the wiser. In any case it is absolutely essential that the would-be designer should thoroughly understand the methods of building up fittings. It is a common experience to come across designs which, on paper, are pleasing enough, but which would tax the patience of the cleverest workman in the making, and would be utterly disappointing when made and fixed in position. This is often accounted for by the fact that the inexperienced designer fails to realise when sketching out his design that the view he is portraying is one that will very rarely be seen when the actual fitting is in position. A fitting is usually viewed from underneath, and hence the constructional work is often too evident.

"One of the chief reasons for the importance I place on workshop experience is because of the knowledge the designer gains of the cost of production.

"In working out a scheme for the lighting of a large building the usual method of procedure is as follows:—The architect allows in his specifications a sum of, say, £400 for the fittings. This may include a main hall in which twenty-light fittings will be necessary; a minor hall requiring six-light fittings, and so on. The designer is then called in, and he has, first, to apportion out the amount allowed according to the requirements of the architect, and then work out his designs. It is very evident that without thorough experience it will be impossible to estimate the cost of metals or the processes he intends employing in the execution of his designs.

"Always study the workman. Note the time he takes over a certain piece of work, and watch the means he employs to obtain certain effects. This is very helpful to the designer in the production of further designs. For observing the metal assume the desired shape in the hands of a skilful workman will frequently suggest many possibilities that otherwise would not occur to the designer.

"Another important point to bear in mind is the finishing of fittings. In cases where the metal is to have a polished surface, as in copper or brass, the fitting must be so designed that when fitted together in the rough it can readily be taken to pieces again to enable the polisher to do his work properly and without any special difficulty. It must be remembered, too, that there is always a risk of injury to the polisher by an awkwardly projecting piece of metal catching in the swiftly revolving 'bob,' and wrenching the work from his grasp.

"A knowledge of modelling is extremely useful. At times a few minutes' use of the clay will explain to the workman an effect desired that would other-

wise require hours of verbal instruction and many sectional drawings.

"A knowledge of the natures and possibilities of the various metals employed is very necessary. Some may be welded and forged under heat, others are more brittle, and will allow of less modelling. For instance, a design which would reproduce well in wrought iron and retain the natural characteristics of the metal would be very difficult to render in brass, and in this case would bear the appearance of apeing the ways of a greater metal.

"When enamels are used, and they certainly have the effect of greatly enriching a fitting, it is wise for the designer to know at least the nature of enamels. The stoves in which they are fired are generally somewhat small, and I should have thought this was a matter of common knowledge; but I remember on one occasion being asked to execute a fitting, the main feature of which was a copper band of about 24 in. in diameter, with enamels fired on direct.

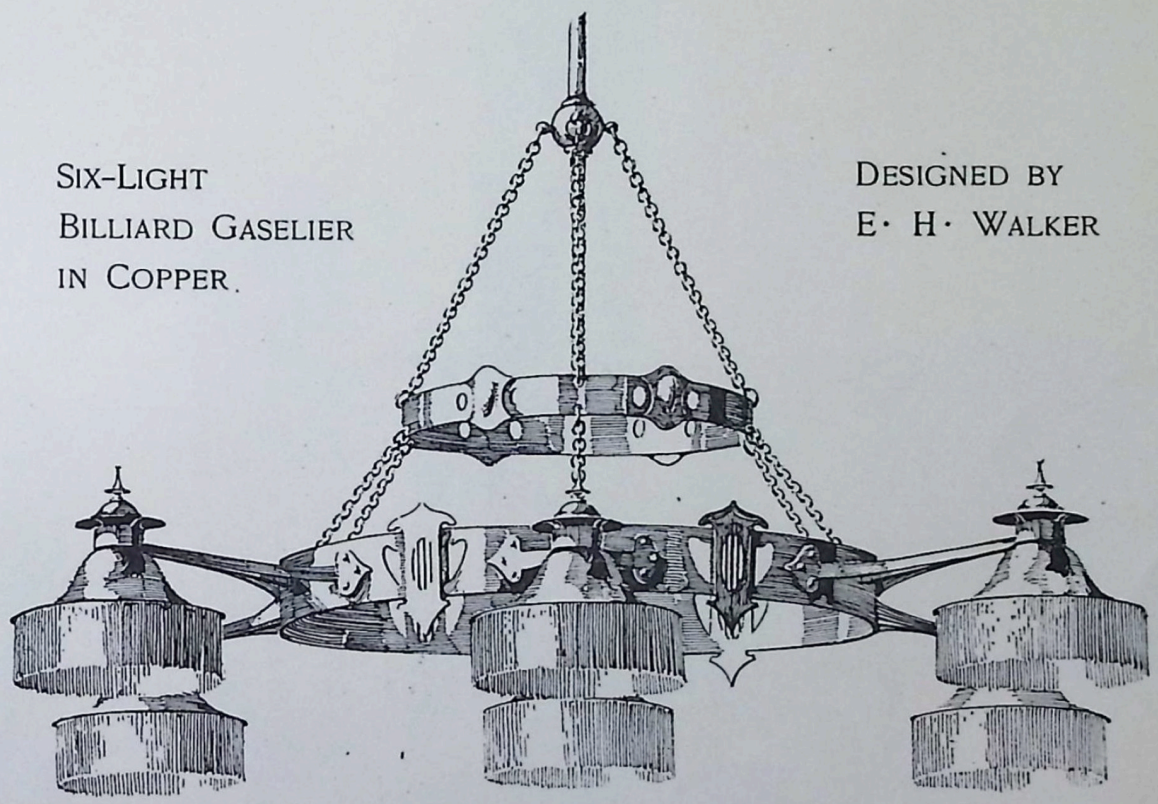
"The most general way of using enamels is by piercing the metal and applying the plaque from the back, being held in place by soft copper clips or a plate soft soldered over the whole of the back.

"To revert to the subject of the design itself—few seem to realise the importance of making an attractive drawing, when submitting a design to a probable client.

"The sketches should always be as carefully drawn as though they were submitted as specimens of drawing. The quickest and most effective method of doing these is to use a tinted paper, either grey or green; for copper or brass, using ordinary water colours for the half-tones—with the addition of Chinese white for the high lights. For iron and silver fittings the best method is to use a wash of Chinese white, and afterwards work on this with a carbon pencil.

"One advantage to the designer of electric fittings over those for gas is the use of the flexible cord; it gives a daintiness to a fitting impossible to obtain by any form of lighting if taken proper advantage of.

"Where the cord is used to suspend the shade, care must be taken to protect the cord where it leaves the metal. This is commonly effected by inserting in the metal a bush of wood or vulcanite.



SIX-LIGHT BILLIARD GASELIER IN COPPER. DESIGNED BY E. H. WALKER

"Another important point to bear in mind when designing a fitting in which the lights are suspended from cords is the ultimate position of the fitting. The renewing of lamps in a twenty-light fitting suspended as many feet from the ground would be a somewhat difficult undertaking if they were suspended on cords.

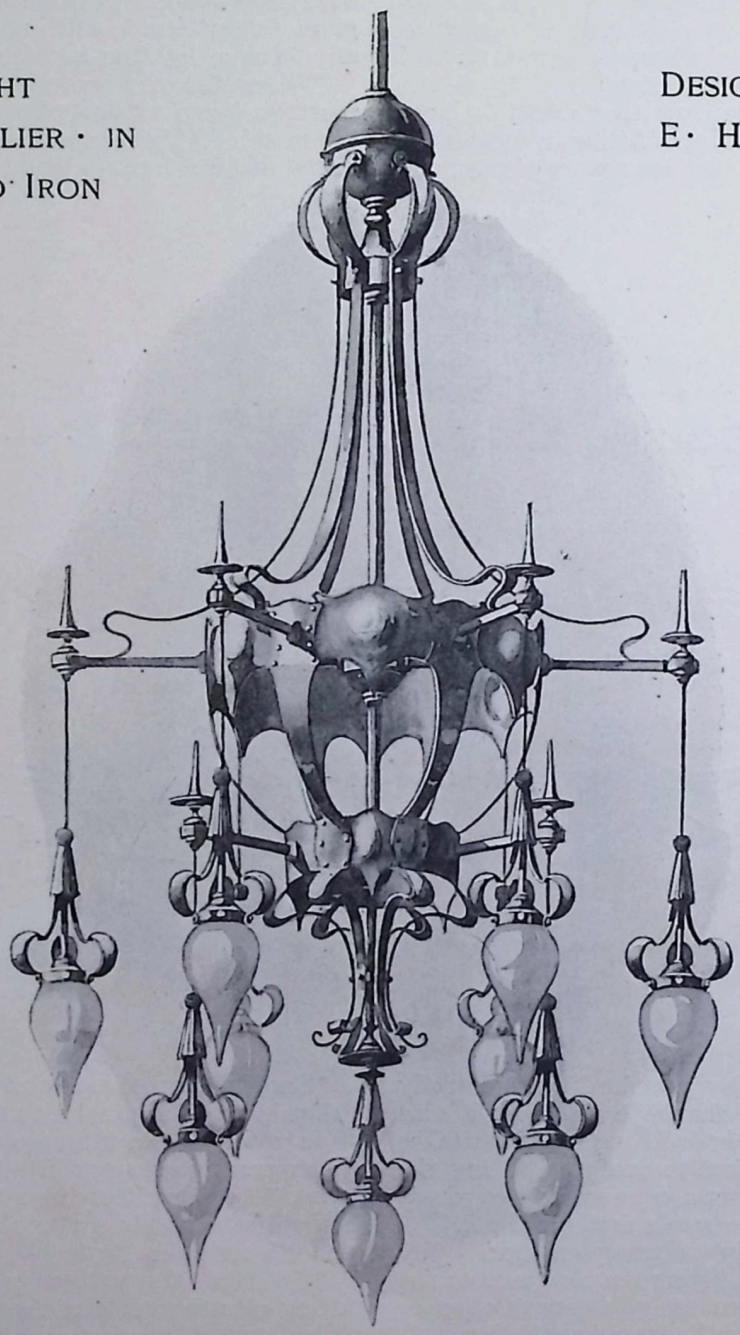
"One must always bear in mind the fact that the fitting must be made so that it can be easily wired. A hollow ball must always be provided in an electrolier to enable the wireman to make the necessary joints. The ball should either be in halves or should have a large enough hole to permit of the wires being drawn in after the joints are made. For a three-light electrolier the ball should be about 2½ in. or 3 in. with a ¾ in. hole easily accessible.

"Above all, let the designer remember that he is not designing a piece of ornamental metal work only.

His main object is to give light where it is required. Any fitting which fails to carry out that object, by obscuring the light unduly or casting unnecessary shadows, is wrongly conceived, however finely it may be designed or executed. It is especially necessary in this work to insist upon the need of utility before ornament."

NINE-LIGHT ELECTROLIER · IN POLISHED IRON

DESIGNED BY E· H· WALKER



THE ILLUSTRATIONS.

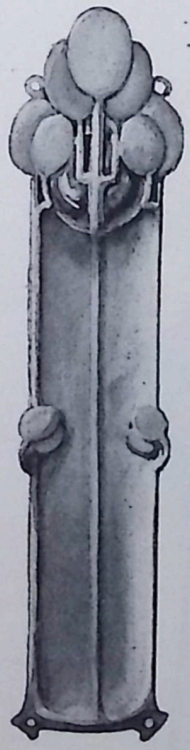
The admirably designed grille, an illustration of which appears at the head of this article, was made in lacquered copper, the centre panel being a beautifully coloured enamel representing a peacock's feather. Round the outer rim five discs of enamel are let in. One of the chief charms of this grille is the simplicity of its construction, consisting, as it does, mainly of strips of sheet metal riveted together.

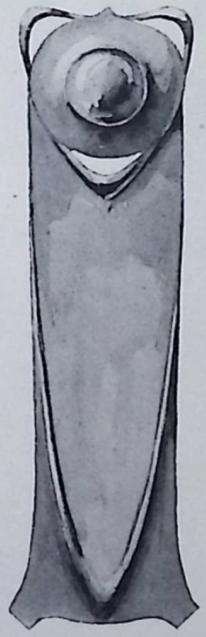
The nine-light electrolier on this page was executed in polished iron, and was designed for a large and lofty room. The double-tier form of lighting makes the fitting far more interesting to the eye, and

serves to distribute the light. There are tassels of crimson silk above each light, with the object of hiding the cord grips and to give an idea of greater strength to the flexible cords; they also add a valuable colour note to the whole fitting.

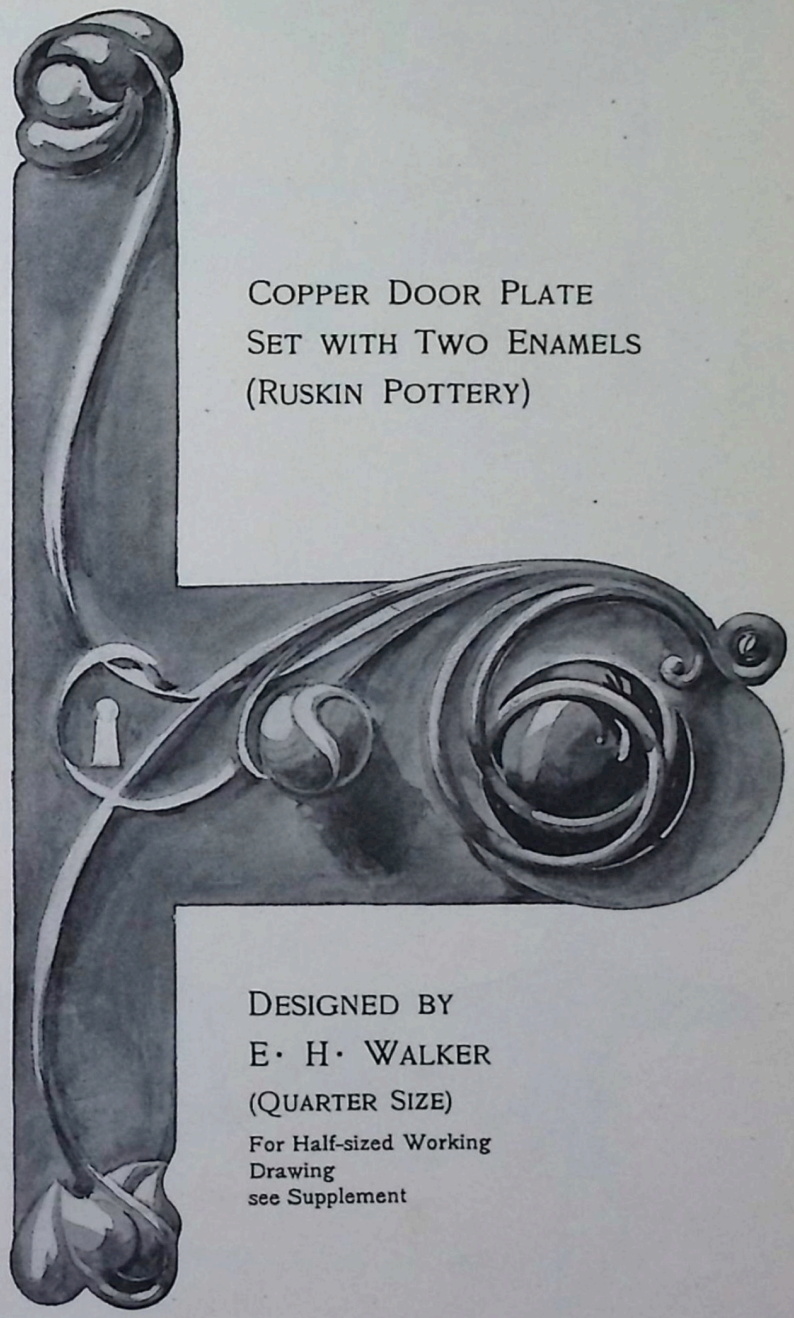
time help to relieve the monotony of the plain surfaces of metal.

The billiard table gaselier was designed for inverted incandescent gas, the principal object being to conceal as far as possible the unsightly but necessary tubes of the gas way. This has been very effectively done, and one of the great charms of this piece of work is the fine form which it presents to anyone viewing it from underneath, a thing very difficult for the designer to accomplish in a fitting of this type.





FINGER PLATES
SET WITH ENAMELS
DESIGNED BY
E· H· WALKER

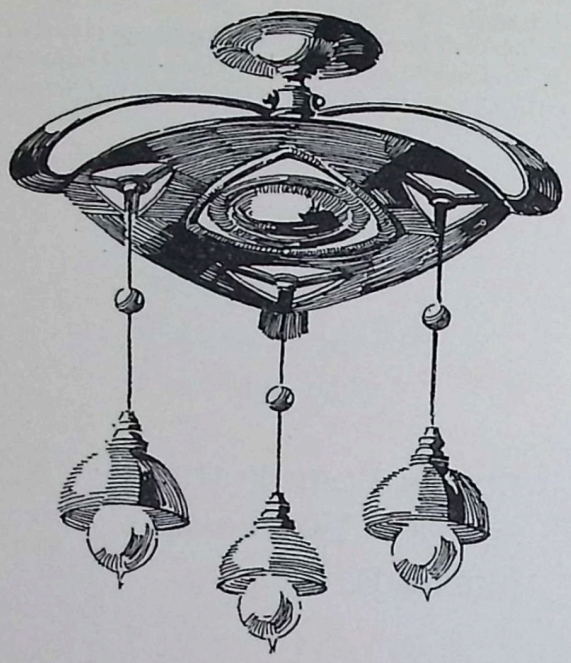


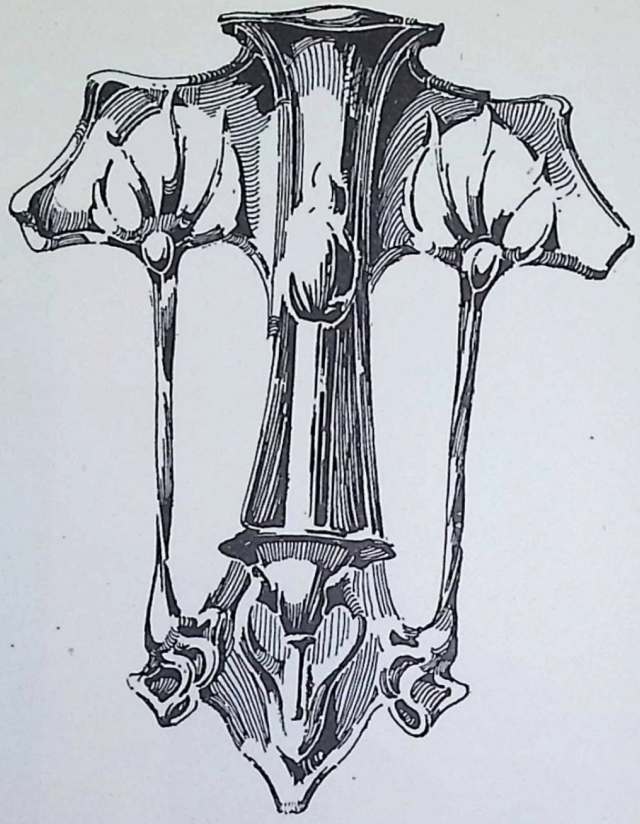
COPPER DOOR PLATE
SET WITH TWO ENAMELS
(RUSKIN POTTERY)

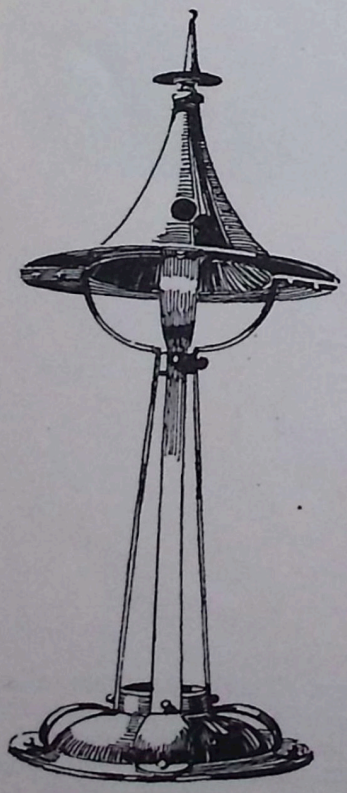
DESIGNED BY
E· H· WALKER
(QUARTER SIZE)

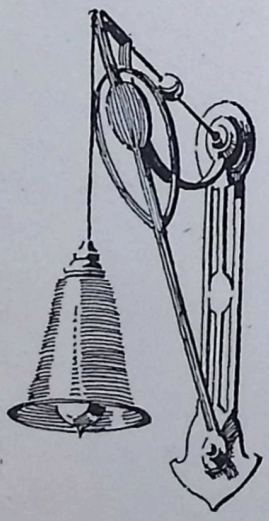
For Half-sized Working Drawing
see Supplement

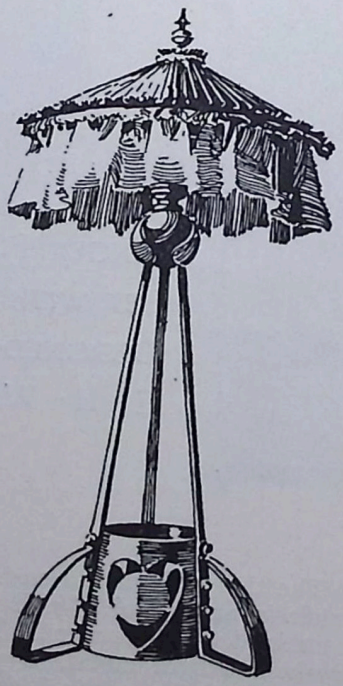
The three designs for curbs on page 261 could be made in any metal. With these strength has been combined with ornament. They are intended to be worked in light metal, so as to be easier to move about, but the vertical straps which have been introduced give sufficient rigidity, and at the same





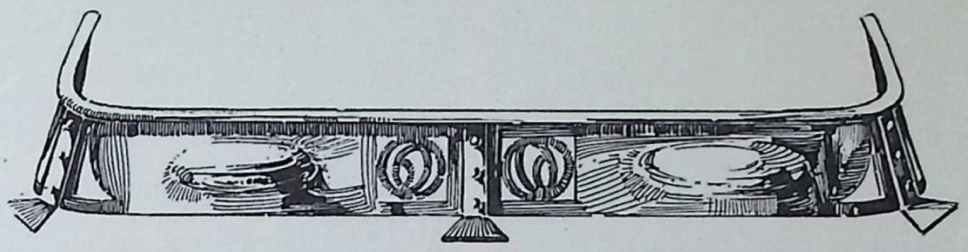


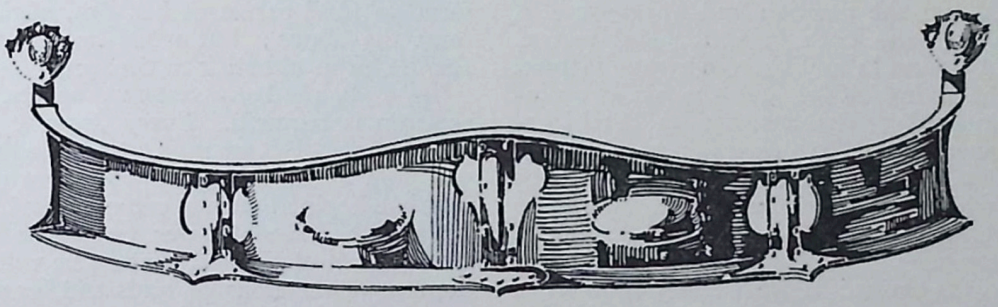


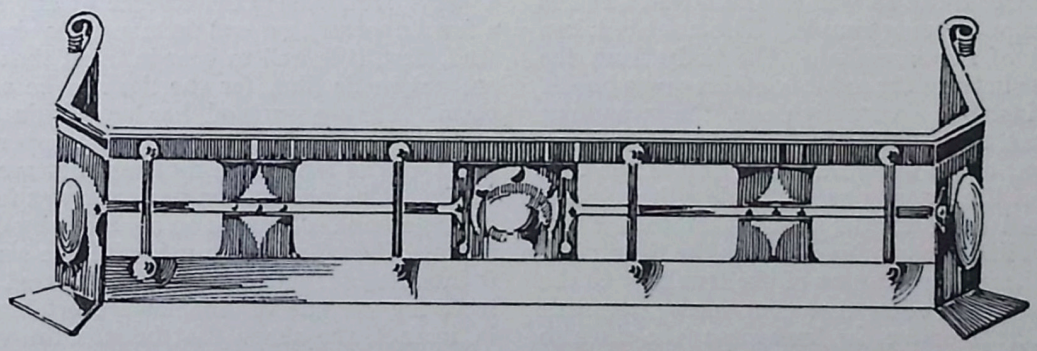


ELECTRIC FITTINGS
DESIGNED BY
E· H· WALKER

The door plate on page 259, a half-sized working drawing of which is given in one of the supplements, is comparatively simple to make, yet very effective when finished. It should be made out of 16 gauge metal in copper or brass, and worked from both sides on the pitch. The space where the enamel is let in is first raised and finished off, and the background is then sawn out. A backing of metal should be soldered over the back to keep the enamel in position. Just above, another small enamel is introduced in the same way. The handle should be cast, for this part is always subjected to hard wear, and casting is certainly the most satisfactory way of having it done. At the same time it would be quite possible to knock up this handle and fit it over a core of wood fixed tightly over the spindle.







DESIGNS FOR WROUGHT-METAL CURBS. BY E. H. WALKER.

We have to thank The Richardson Electrical Co., Ltd., for permission to reproduce the designs of the fittings which accompany this article.

Hints on Artistic Anatomy.

IT is hardly necessary to say that whoever would draw or paint the figure must study from life. The most thorough knowledge of the way in which the human frame is put together will not enable its possessor to draw even tolerably well. Indeed, some have found it a hindrance; for the inner workings do not always show on the outside, important articulations being scarcely recognisable at first to students who have begun by drawing from the skeleton. Nevertheless one will progress much faster in the life class if, after drawing for a month or two from the model, he begins to study anatomy—but not even then as if he were studying to be a physician. His concern is only with what shows on the surface. Minute study of the vital organs and of the smaller muscles not concerned in facial expression is unnecessary. What will be found of immediate use in study from life will be to memorise a canon of proportions, to learn the construction of the skeleton and the action of the joints, and the position and appearance of the principal muscles both in action and repose. This cannot be done in any thorough way without the use of the living model and the aid of an instructor competent to demonstrate on the blackboard the connections of the muscles that the student sees in motion. But some useful advice may be here given, which can be understood if the reader will, whenever he is at loss to understand it, refer to his own anatomy.

First as to the canon: a great many schemes of proportion have been invented from the time of Polykleitos to the present; but, as nothing but a general rule is required, which we need not expect either nature or art to adhere to strictly, the following will answer quite as well as the latest. It has the advantage of being simple. The head is taken as the unit of measurement. The body from the crown of the head to the ankle contains seven heads. When the instep is a very high one, the remaining measurement, from ankle to the plant of the foot, will be about equal to half a head. From the chin to the end of the breastbone, just below the nipples, is the second head-length; from that to the top of the hip, a little below the elbow, is the third; the fourth reaches to lowest part of the trunk, or to the wrist, if the arm is allowed to drop inert; the fifth comes to a little above the knee-cap; the sixth to the thickest part of the calf, and the seventh, as we have said, to the ankle. If the student will bear these proportions in mind, it will be easy for him to seize whatever may be peculiar in the adjustment of the figure before him. Most people vary from this canon in being shorter, particularly in the lower limbs. A few approach or even pass the height of eight heads, which was the ideal canon of the Greeks. Some artists of the late Renaissance went so far as to draw figures ten heads in height, with the mistaken idea of giving their drawings a superhuman elegance. The Greeks of the decadence also lengthened their figures greatly.

In many text-books the reader will find some such canon as the above—they vary slightly—elaborated so as to furnish measurements for every part of the body. But it will readily be seen that to give such an elaborate canon would be rather a hindrance than a help to the student. What he wants is a standard which can be easily remembered and applied, not a rule to draw his figure by. He will, perhaps, never find a figure which will exactly conform to the simple canon given above. And as soon as the model is put in any pose of action, foreshortening is introduced, and then the canon cannot be applied at all except in the roughest way. Let the student simply bear in mind that the fork of the legs is a little less than half the height of the body; that the trunk (to the chin) may be divided into four heads, and that other divisions will fall just above the knee, at the calf and the ankles, and he will be enabled to map out the standing figure. He must then correct these proportions carefully, without any regard for ideal beauty, from the actual proportions of the figure in front of him. In time, after he has drawn a great deal, he will probably form an ideal canon of his own, slightly differing from the above; but while he is studying from the life he should stick to the facts.

To study the bony system properly, a well-hung skeleton is required. Every drawing class should possess one. But we may advise the reader that he will gain at once broader and more precise views if he can begin at once to compare the human framework with those of lower vertebrate animals. In the Museum of Natural History he will find a large number of skeletons of birds and beasts admirably mounted. Quick sketches from these, made with an eye to the proportions mainly, and sedulously compared with the human skeleton, will teach him more in a month than he would otherwise learn in a year. But, even in the absence of any such helps, a few important general facts may be apprehended. And, first, it is well to bear in mind that the bones are not made first, for the flesh to be added over them. They grow and harden within the body, and their object is to protect and support the vital parts and to aid in the motions that are necessary to life. One well-known professor was in the habit of beginning his lectures on anatomy by drawing on the blackboard a great oval, with the small end up if intended for man, or pointed forward if he were lecturing on one of the lower vertebrates. This is, in fact, the shape that bounds the viscera, the broad end of the oval standing for the abdomen, the smaller extremity for the chest. The great difference between animals that may be described as horizontal and those that go more or less erect follows inevitably from the position of this oval. In animals like the cow and the horse, so much of the weight is thrown forward that special provision is made to support it there. Not only are the ribs and breastbone strengthened, but the bones corresponding to our upper-arm bones are bent so as to carry much of the weight. In birds the breastbone is enormously developed. On the other hand, the pelvis, which carries the entire weight of the

trunk in man is in him a large and almost solid bony basin; while in the quadrupeds, having only to support the spine and the harder limbs, it is proportionately much smaller and the openings in it so much larger that it may be compared to a figure 8 bent at an angle in the middle. It will be both interesting and useful to note how, as an animal assumes more of the upright habit, the pelvis grows larger and the fore or upper limbs freer. One may trace a very obvious progression from the bear, which occasionally stands upright, through the kangaroo and the monkey to man. The bones of the trunk, back bone, pelvis, ribs, and breastbone should be studied altogether, as one system, from all points of view. Special study should then be given to the articulations of the limbs with the trunk. The limbs themselves will come next, and many careful drawings (not sketches) should be made of the complicated bony structure of hands and feet. The same may be said of the skull, which cannot be studied too closely nor too often.

As study from the life should be kept up all the time, the student, as soon as he knows a little about the forms and movements of the bones, will insensibly learn the attachments and play of the principal muscles. But a good teacher will here be of great service. No sort of models or drawings can take his place. The student, however, can teach himself a great deal by going through various motions, bringing the muscles, one after another, into prominence. A great many quick sketches should be made of the nude model in action.

In sketching action, the main thing is to note well the departure from equilibrium. When the body is at rest in a standing position, the line which passes through its centre of gravity, passes also through the middle of the head and neck, but not through the legs. It falls in front of them, about through the instep. In a well-built man the chest is the most prominent part, the body is thrown forward on the legs, and the head is held a little back to balance it. In walking, some people carry the body straight and stiff; but it is not a natural nor a graceful carriage. It should rather be thrown a little more forward than is customary. In running it is thrown forward still more, and is, except just as the foot reaches the ground, completely out of equilibrium. The archaic Greek sculptors made the mistake of trying to represent running without loss of balance.

In all action the parallelism of the body shows itself. If one member is thrown out of position, all the others have to follow, until a freshly balanced attitude is attained. Thus, if you bend one knee, throwing the weight of the body upon the other leg, the upper part of the body and the head incline to the side that is flexed, bringing the opposite side into a great curve, with the hip at its most prominent point. A figure which leans all to one side looks idiotic. The flexibility of the spine plays a great part in this instinctive recovery of equilibrium, and so do the muscles of the body, which show in lines of torsion, as it were, of elastic bandages wrapped around the more regular bony framework.

The Art of Portrait Painting.

By the Hon. John Collier.

THIS book is without doubt one of the best that has ever been published on the subject of Portrait Painting. The Hon. John Collier treats the subject from his own personal point of view, and when it comes to criticism, even in the case of modern work, he speaks his opinion plainly, but not without giving very good reasons for his judgment. The volume is divided into three parts, dealing with The History of Portrait Painting, The Aims and Methods of the Great Masters, and The Practice of Portrait Painting, and all three chapters are full of invaluable suggestions to the artist—in fact, to anyone interested in painting. The illustrations, too, are well worthy of the text; there are forty-one of them, all carefully chosen, to illustrate the author's remarks. Those in colour are reproduced with marvellous accuracy, and are a pleasant surprise after the usual three-colour reproductions of old masters which we have been accustomed to in previous publications. To attempt to give an idea of the excellence of this book in a short review is impossible; we can only say that it is one of the very first which a student of portrait painting should put on his list for purchase.

The author sums up portrait painters by saying that, in his opinion, Rembrandt and Velazquez are the greatest portrait painters who ever lived, but he gives the palm to Velazquez. "What is noteworthy," says the author, "in the early work of Rembrandt is that the heads, although smoothly painted, are quite as vigorous as in his later and much rougher style. Of course, the reason is (though this is often overlooked) that vigour of effect depends on truth of tone and strength of light and shade, and not on thickness and roughness of paint.

"Rembrandt's later style was finer than his earlier, because it gave more truly the impression of texture; also the work was done more rapidly and with more ease. Consequently it was more masterly, but it was not more effective. It is this essential truth and vigour that to my mind constitute Rembrandt's chief claim to be one of the two greatest portrait painters of the world. For his mastery over chiaroscuro I think he has been overpraised. This mastery he undoubtedly had, and in many of his pictures it is used most worthily to enhance the general effect, but in others it is employed in an exaggerated and unnatural manner, and degenerates into something very like a trick."

In speaking of the well-known picture, "The Syndics of the Clothworkers' Guild," he remarks that the "perspective is perfectly insane. The table is obviously looked at from below, for we do not see the top of it. Yet the heads are certainly not looked at from below, and the lines of the woodwork behind them are absolutely inconsistent with this view of the table. Many people of the superior order will say that it does not matter in the least.

I think it does matter, but that, nevertheless, this is one of the finest portrait groups in the world."

In referring to the work of Reynolds, we learn from his notebooks that in 1758, when he was thirty-five years of age, he painted no fewer than 150 portraits; in the following year 148, and he kept up an average of about 120 for a long period.

Gainsborough and Romney hardly equalled his enormous productiveness; but, judging by modern standards, their output also would be considered prodigious.

Of course, the question immediately arises, how was it possible to go painting good pictures at such a rate as this? The author says it was not possible. "When they had sitters that pleased them, or when, for one reason or another, they put out their full strength, these men of genius produced admirable pictures, and from these pictures they have deservedly gained their great reputations. But their average work was very poor indeed: ill-drawn, conventional in attitude and expression, and with very little of the individuality that makes a good portrait. Like Vandyke, they were spoilt by becoming the fashion. It was the manufactory over again. But with all its drawbacks this is perhaps the most charming school of portraiture that has ever existed; but assuredly not the greatest. Reynolds, Gainsborough, and Romney lived in too artificial an age to produce the highest art, but this very artificiality gives a dainty grace that is, in some ways, more attractive than the robust truthfulness of the greatest schools of painting. It is precisely in this quality of truthfulness that the work of these exquisite artists falls short. They flattered their sitters abominably. Then their productiveness was so immense that in all but their finest work they scamped everything but the head. Indeed, they adopted the fatal practice of having draperies, backgrounds, and even hands painted for them by their assistants, generally without the presence of the sitters."

In dealing with the modern school, the author says he would much rather be silent about them, but at any risk feels that he must venture on this perilous field. In the first place, he states that the modern school is very varied and highly experimental. New methods of handling, new harmonies of colour, to say nothing of new discords, are always being tried. The tendency in all art to convention is so strong and so fatal when yielded to that this wholesale seeking after new methods is, he believes, a wholesome sign; but there should be some moderation in it. Then, again, "I am old fogey enough," he says, "to consider that a portrait ought to resemble the person it is meant for. I am aware that many of my brother artists will consider this a mere antiquated prejudice, and I am willing to concede that I have perhaps stated the principle a little too strongly, but this I must adhere to—that a portrait ought at least to resemble a human being."

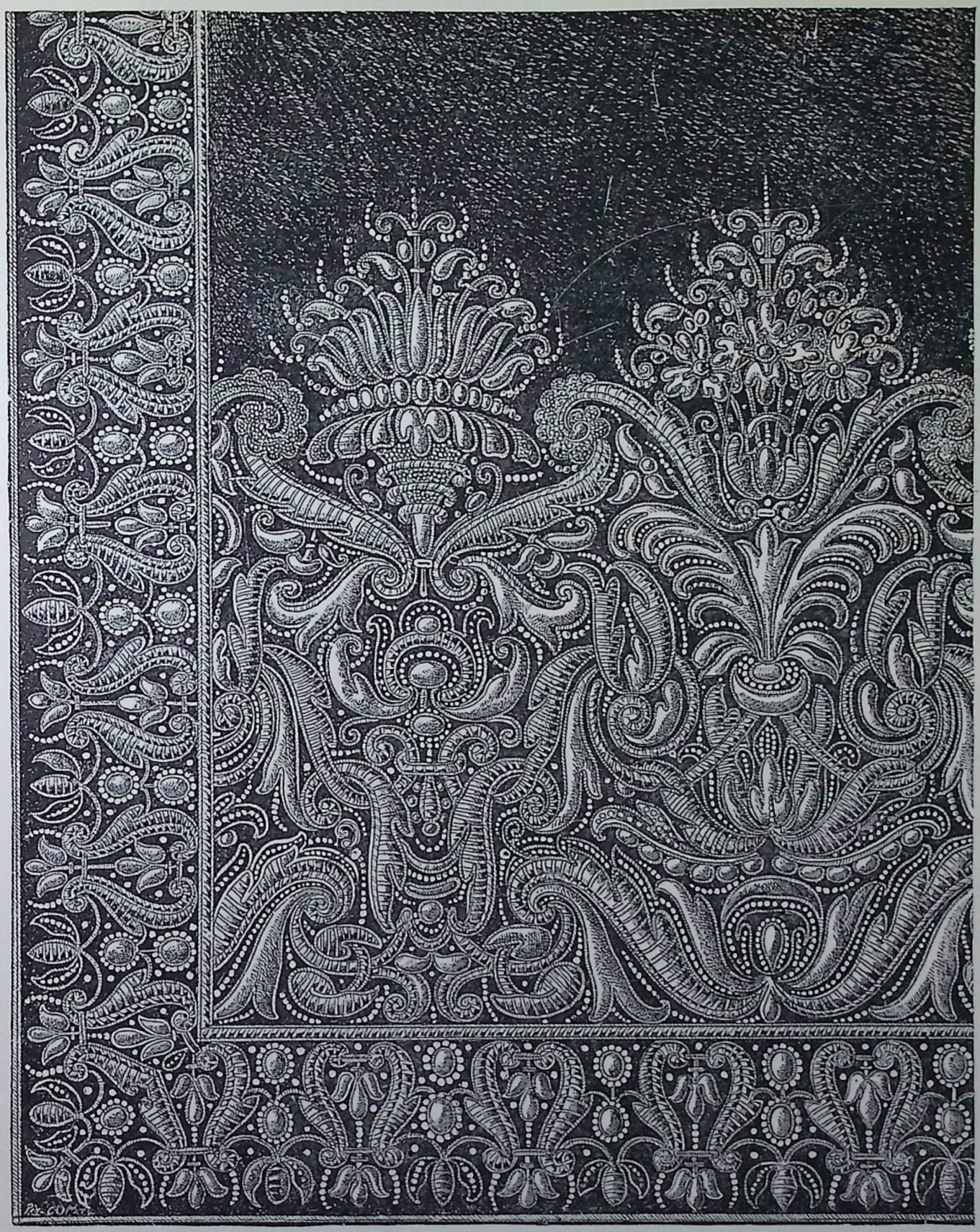
The founder of modern portraiture, at any rate in Great Britain, the author considers, is Millais. "He was a realist, and broke once and for ever with the mannered grace and essential artificiality of the great school of the eighteenth century. He also broke with tradition in another respect. He dispensed entirely with the army of assistants that had hitherto been the mainstay of the fashionable portrait painter.

"Millais's colouring was extraordinarily varied, indeed, often too vivid and kaleidoscopic, and he seems to have looked on every sitter as a fresh problem, not as a creature to be forced into an artistic mould. One of Millais's besetting sins was lack of simplicity in colouring, especially in flesh painting. This was a legacy from his pre-Raphaelite days, when the great aim of the brotherhood was to produce an intense vividness by the juxtaposition of small patches of the primary colours, instead of mixing the required tone on their palettes. None of the really great colourists have adopted this method, and I am quite sure that flesh, at any rate, is much better represented by simple tones, subtly graduated, but not too much broken up."

The author is not an enthusiastic admirer of the portraiture of Whistler, and his reasons are stated very clearly and convincingly. He complains that his portraits are utterly unlike the sitters; his work, to use Whistler's own expression, may be a harmony in grey and flesh colour, or something to that effect, but it is not Mr. Brown or Mrs. Smith.

Many valuable suggestions are to be found in the chapter on The Practice of Portrait Painting. "There is a little dodge of my own," says the author, "which I think may be specially useful to the portrait painter. As our work is mostly life-size, there is an obvious advantage in placing the canvas side by side with the sitter and looking at them both from some way off. The picture and the sitter are then seen of the same size and in the same light, so that this method is a great preventive of errors in tone and proportion. It has, however, great drawbacks, owing to the artist having to walk backwards and forwards between the touches. These drawbacks would disappear if he could keep at a distance and still work on the canvas. In painting, this is hardly possible. Gainsborough tried it with six-foot brushes, but this does not put the painter far enough away, and these brushes are extremely inconvenient to paint with. Velazquez appears also to have tried it, but he certainly abandoned the method. So we may take it as impractical, at any rate in painting; but for drawing it is not so impracticable. I place a piece of soft charcoal at the end of a Japanese fishing-rod made of bamboo, which is fairly stiff and quite light. With the arm extended it is possible to draw with this whilst standing more than ten feet off the canvas. It is troublesome to draw in this way, and only the roughest outlines can be attempted, but I find it very useful in placing the picture on the canvas and in getting the main lines right in direction and proportion. It would be better still if one could stand further off, but this would be very difficult.

"The need of preventing sitters from becoming bored is one of the problems of my profession. When the artist is absorbed in his work, the last



EMBROIDERED VELVET PORTIÈRE. SEVENTEENTH CENTURY FRENCH WORK.

thing he wants to do is to talk. But the sitter has nothing to absorb him, so the time that flies so rapidly with the artist crawls very slowly with his unfortunate patient, and soon that dull and hopeless expression creeps over him which is so fatal to the success of any portrait."

The Hon. John Collier, it appears, supplements a fitful conversation by placing a large looking-glass behind him, so that the sitter can see the progress of the picture in it. Some painters are chary of showing their pictures until they are finished, but he does not see that there is any harm in letting other people see the steps by which his results are achieved. This watching of the progress of the picture has naturally a great interest for the subjects of it, and has the incidental advantage that they can see more or less when they are out of the pose, and can correct it for themselves. The looking-glass serves a double purpose, as it is invaluable in correcting errors of drawing.

["The Art of Portrait Painting." By the Hon. John Collier. London: Cassell & Co. 10s. 6d. net]

Painting upon Glass.

THERE are two ways for amateurs to paint upon glass, viz., with varnish or transparently, in water-colours. The first of these is best for windows, and ground glass is best to paint upon. The following colours will be needed, in fine powder, mixed, when used, with picture copal varnish; diluted, when necessary with spirits of turpentine:—

Raw and Burnt Sienna,	Burnt Umber,
Rose Madder,	Carmine (or
Brown Pink,	Crimson Lake),
Yellow Lake,	Gamboge,
French Ultramarine,	Prussian Blue,
Verdigris,	Ivory-black opaque.

A few sable pencils, a flat camel's-hair brush, some picture copal varnish, and a little spirits of turpentine are also necessary. The materials being ready, proceed as follows:—Lay the glass flat on the print or drawing to be copied, and with a very fine sable pencil and ivory-black, mixed with varnish, trace all the outlines. When *thoroughly dry*, raise it to a slanting position, by placing it upon a frame with pieces of upright wood on either side, and a sheet of white paper flat beneath it; by this means the effect of the colouring will be better seen, which may at once be proceeded with. One caution is perhaps here necessary; be careful not to rub up the black in the colouring, as it is liable to smear if much worked over. On this account moist ivory-black is frequently, and with advantage, substituted for putting it in the outline. It may be used with a pen most conveniently, fine or coarse at the points, according to the nature of the work. When finished, the painting should be fixed up in the window with the unpainted side outwards.

A few hints as to mixing the colours may be useful. The nearest approximation to scarlet is made by the admixture of gamboge with rose madder, crimson lake, or carmine; for greens, verdigris is very brilliant, and almost every shade may be made by adding yellow lake or brown pink in different proportions When a flat even tint is required, the camel's-hair brush is used, and a dabber (made by simply covering a little cotton wool with fine leather), which is particularly useful for backgrounds in figure subjects and skies in landscapes, and this applies also to the use of water-colours. When the painting is finished it must be varnished.

Painting glass transparently in water-colours is decidedly the best method for magic-lantern slides. Plain clear glass should always be used, except for windows, when ground glass may be substituted with advantage. The glass should be washed over with a piece of rag and a little gall; this removes any greasiness there may be upon it. The colours are manufactured expressly for the work.

Small subjects are most effectively painted in water-colours, as a finish and delicacy are attainable impossible in the use of varnish colours.

The outline should be made with a pen charged with liquid colour, containing a small portion of ox-gall, and should be varnished with thin mastic varnish before any attempt is made to work upon it. The colours being placed upon the palette, and diluted with water, we proceed in the same manner as in painting varnish colours. These colours dry rapidly, but it is necessary between each layer of colour to give the glass, or that portion of it which has been worked upon, a slight coating with varnish, to prevent the second colour wiping off or rubbing up the first; for this purpose it is desirable to use the enamel varnish made expressly for glass-painting.

CORRESPONDENCE.

These columns are free to all. It is only required that (1) questions dealing with different topics be written on separate sheets of paper with the writer's name and address on the back of each, and that (2) stamps accompany all pictures, drawings, prints, &c., to be returned. All correspondence should be addressed to the EDITOR OF ARTS & CRAFTS, 37 & 38, *Strand, London.*

How to Clean Prints.

B. B. (Newark).—To clean and whiten prints which have become dirty by hanging in a smoky room, soak them in a weak, clear solution of chloride of lime until white, and then soak them in running water. Steep them for half an hour in water containing a very little hyposulphite of soda to neutralise any trace of adhering bleach, and dry them between blotting paper under pressure.

Pouncing and Transferring Patterns.

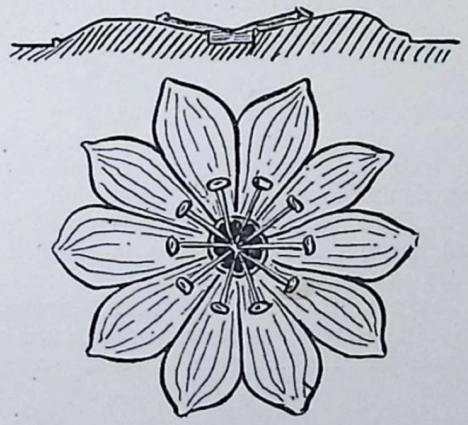
S. P. (Nottingham).—Pulverised charcoal makes the best pounce-powder, it being unlikely to soil the work. It is easily removed from the fabric by lightly dusting with a silk handkerchief, and it leaves no stain or mark, as chalks sometimes do. The pounce-bag is made by tying a little powdered charcoal in two or three small squares of muslin. The perforated pattern being placed on the cloth, the pounce-bag is lightly tapped on the surface, so as to force the powder through the muslin, and, at the same time, through all the perforations of the pattern, showing by the powder which has passed through the minute holes of the pattern a dotted repetition of the form of the design. The pattern is removed, and the pounced design is secured by going over it with a soft black lead pencil, and drawn in with a reed pen and liquid Indian ink, or any other colouring fluid.

"Gadsby" (Tiverton).—According to the "Chemiker Zeitung," a cement very useful for cementing glass to metals is made by boiling one part of caustic soda and three parts of colophony with five parts of water, and kneading up the resin soap thus formed with half its weight in gypsum. This cement is said to withstand considerable heat.

"Firefly" (Manchester).—To solder tortoiseshell, bring the edges of the pieces of shell to fit, taking care to give the same inclination of grain to each. Then secure them in a piece of paper and place them between hot irons or pincers; apply pressure and let them cool. The heat must not be so great as to burn the shell, therefore test it first on a piece of white paper.

F. B. K. (Hampstead).—The removal of a mounted print from the mount without injury to the print is not an easy task. Probably the best method is to place the mounted print in a tray of water, with the print uppermost, and allow it to remain until the water has penetrated through the mount and softened the paste. The process may be hastened by sponging the back of the mount with hot water. Some skilful photographers have been known to remove mounted prints by starting a corner with a sharp penknife, and then stripping the print boldly from the mount, but the practice is not apt to succeed in unskilful hands.

A. J. B. (Newmills, Derbyshire).—If you read the article which appeared in last month's ARTS & CRAFTS on various methods of finishing oak, you will find your query answered.



We give an illustration of a full view of passion flower, and also section showing how it should be treated. The centre is sunk quite down, as shown by section and also by the black shadow in the full view. The stamens are left standing upon the face of each petal, and all join in the centre. If any further difficulty presents itself, please let us know, and we will try to put it right.

Robert J. Kane (Ballymoney, co. Antrim, Ireland).—Mr. Turner's article in this month's issue of ARTS & CRAFTS will help you in your difficulties regarding joints. Respecting your query *re* suitable woods for carving, this is entirely a matter for individual taste. Oak, American black walnut, mahogany, satin walnut, and kauri pine are all excellent. When any of these should be used much depends upon the kind of article it is proposed to make, its ultimate surroundings, the design to be used, and the colour scheme which it is intended to adopt. If you have any particular difficulties, we will advise you further upon receipt of particulars. As regards advising you *re* designs, your query lacks definiteness. If you will tell us exactly your requirements, we shall be pleased to advise.

John Bownes (Millom, R.S.O., Cumberland).—The gold leaf is purchased in books. It is necessary to have a gold cushion and a gold knife. The leaf must not be touched with the hand, but must be moved on to the cushion with the knife. The cushion and knife must be kept free from grease: a little bath brick powdered on the cushion and knife will effect this. The knife should be just sharp enough to cut the gold and not sharp enough to cut the cushion. The gold, when cut up, should be lifted with a pad of cotton wool slightly greased. The best size is Reeves' raising preparation. This can be bought from any of Reeves' depôts. The preparation used thickly enables one to raise the letters considerably. It is used with a brush in very much the same manner as gesso. When dry breathe on it, and then lay on the gold quickly. It can then be burnished. When great accuracy is necessary in laying down the gold, the leaf can be picked up with a small piece of paper instead of the cotton wool pad.

"Milmar" (Rainham) asks for the names of a few (about six or eight) of the principal colours used for china painting, and also where to procure them, and would also be glad of a few hints as to the change that takes place in the colours when "burnt," and as to whether the colours ought to be applied lighter or darker than required.

The request is rather vague respecting principal colours for china painting. There are but seven (principal), from which a thousand shades are made—all prepared ready for mixing. For general work we should use moss, apple, olive, and brown greens, best red, maroon, rose, pink (coral), royal blue, prussian, worcester (best, No. 116), turquoise, chrome, egg and lemon yellows, golden brown, French brown, red brown, best brown, orange, purple, violet, grey, white, and black. With these bodies nearly any shade can be produced, but coral reds will not mix with any other colour. Experience alone can teach the change which takes place in firing, but all colours fire up much brighter. Shades will be obtained in proportion to the fat, oil, and turps used in mixing (grinding) the colours. This is done under the palette knife. Mr. H. S. Ashwin, of Trent Vale, Stoke-upon-Trent, supplies all pigments and suitable ware. He also undertakes the firing and gilding. The colours are put up in sixpenny packets, ground gold (requires burnishing after firing), costs 21s. per dram, and liquid gold (fires to its brilliancy) is sold in 10s. bottles. Mr. Ashwin's charges for firing are extremely moderate—for instance, for tea sets of forty pieces he charges 5s.; teapots, 3d. to 1s.; tiles, 2s. per dozen: single cup and saucer, 6d. If the colours are properly mixed, and painting is allowed to dry for three days, the china can be packed and sent for firing without fear of damage.

EXHIBITIONS.

OXFORD ARTS AND CRAFTS EXHIBITION.

THIS exhibition will be held at the Town Hall on May 17, 18, and 19. Numerous small money prizes are offered for the following exhibits:—Embroidery (20 prizes), Metal Work (3 prizes), Stained or Painted Wood (3 prizes), Poker Work (4 prizes), Enamels and Jewellery (3 prizes), Leather Work (3 prizes), Lace (49 prizes), Wood Carving (10 prizes). All these are open to any outsiders. From previous visits to this exhibition we believe the average sales are very satisfactory. Intending exhibitors should write to the Hon. Sec., Mrs. Parker, Alverstone, Iffley-road, Oxford, for particulars.

THE SCHOOL OF WOODCARVING.

THE School of Woodcarving, which has been carried on so successfully at The Pheasantry, King's Road, Chelsea, by Miss Blackburn and Miss Idle, has recently been removed to 2, Harrington Gardens, Gloucester Road, S.W., where a well-lighted workshop has been secured.

The annual exhibition of the work of this school will be opened on May 4 by the Bishop of London. Tickets may be obtained on application.

AN EXHIBITION OF ARTS AND HANDICRAFTS.

AN exhibition and sale of Arts and Handicrafts will be held at the Grafton Galleries from April 19 to 27. There will also be daily demonstrations in jewellery making, glass blowing, lace making, bookbinding, basket making, pottery modelling, woodcarving and inlaying.

In the prospectus the organisers state that "the primary object of this exhibition is to further and encourage the sale of high-class handicrafts of every description," and they add that "it is obvious that with this in view it will be of the utmost importance that exhibitors should personally attend their exhibits or send a reliable representative who could undertake the sale of their work and accept orders."

Nothing is said as to the commission charged, but full particulars can doubtless be obtained from Mrs. Charles Muller, 79, Park Mansions, Knightsbridge, S.W., who is organising the exhibition.

The Editor's Note Book.

THE late Mr. Harrison Weir has left a sum of money to the Royal Academy to form a bequest somewhat similar to that of Chantrey, but, of course, on a smaller scale. There are now thirteen funds which are administered by the Royal Academy. The first in importance is the Chantrey Fund, then there is the Turner Fund, which amounts to over £30,000 and provides sixteen annuities of £50, and the Biennial Turner Gold Medal and Scholarship. The Samuel Cousins Fund provides seven annuities of £80 each, and that of E. W. Cooke two of £35 each. All these annuities are given to needy artists who are not members of the Academy. The remaining funds are the Edwards, the Leighton, the Armitage, the Landseer, the Newton, the Sandby, and the Creswick, and are nearly all devoted to pensions and prizes.

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I UNDERSTAND that Mr. John S. Sargent, R.A., and Mr. Wilson Steer have both been requested to paint their portraits for the Uffizi Gallery in Florence. This great honour is especially well deserved by Mr. Sargent, who is undoubtedly the most eminent living portrait painter. In the case of Mr. Steer the reason is not so obvious, for though his work is remarkably clever, it is questionable whether he has yet arrived at his best period.

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THE list of subjects for the Royal Academy competitions for this year has just been issued. The students have until the end of November to complete their works. The subject for the Creswick prize is "Sky effect over meadow and river, with a bridge in the foreground," and that for a design in water-colour for the decoration of a public building is a passage from Psalm lxviii.: "The singers went before, the players on instruments followed them; among them were the damsels playing with timbrels." The subject for the cartoon, for which is given a silver medal and £25, is "A Female Figure in Classical Drapery Carrying a Pitcher."

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A SILVER MEDAL is offered to sculptors for a design for a pair of spandrils on each side of a circular arch, representing, respectively, science and art. A travelling studentship of £60 is offered to architectural students for the best design for "a town church."

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MR. J. L. PATON, M.A., Head Master of the Manchester Grammar School, writing in the "Sunday School Chronicle," says:—"In our woodwork shop at school, we have fixed up round the room large, bold designs in black and white, showing how the various tools should be held in working, and, as the classes are at work, you will constantly notice the boys looking up at these designs, to see whether they have got the right grip of their plane, their rabbet-saw, or whatever their tool may be. These designs save the instructor a lot of talking in what is necessarily the noisiest department of the school, and we call them our 'Dumb Teachers.'"

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AN exhibition of a unique character will shortly be opened at the Modern Gallery, New Bond Street. It will be "A Three Generation Show," and will consist of paintings by the late Mr. L. J. Wood, R.I., and his son, Mr. Pinhorn Wood, whose son, Mr. Lawson Wood, the well-known black and white artist, will also contribute.

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A GENERAL MEETING of the Royal Scottish Academy was recently held in Edinburgh for the selection of three associates, viz., a painter, a sculptor, and an architect. The following were elected:—Mr. R. M. G. Coventry, Glasgow (painter); Mr. Percy Portsmouth, Edinburgh (sculptor); and Mr. James Miller, Glasgow (architect).

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PROFESSOR GERALD MOIRA has now completed two of his mural paintings for the lunettes over the entrances to the Courts in the Central Hall of the New Sessions House, Old Bailey. They are not yet in position; in fact they have not yet been removed from the studio. The two lunettes, which are very large, represent "Justice receiving the Homage of the Empire" and "Mosaic Law" respectively, the latter forming one of a series which will include English, Greek, and Roman Law.

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IN the first a figure of "Justice," with sword and scales, stands upon the top of a flight of stairs, on either side of which are typical groups, headed by the late Archbishop of Canterbury, and the late Cardinal Manning. Among the groups are also representations of the Chief Rabbi, a Prime Minister, the Chancellor of the Exchequer, the Lord Chief Justice, the Commander in Chief, and labourers. The background represents a view of St. Paul's Cathedral. The "Mosaic Law" shows Moses and Aaron, with the Tables of the Law, and the Elders of Israel seated at the foot of Mount Sinai.

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PROFESSOR MOIRA is also to execute a painting of "English Law," and the cartoons and decorations over the main staircase and those of the dome.

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THE INTERNATIONAL SOCIETY are busy spreading their doctrines all over the country. An exhibition of works by members of the Society was recently opened in the Castle Art Gallery, Nottingham, at the invitation of the Corporation. Among those exhibiting were Harpignies, John Lavery, Joseph Pennell, Henry von Bartels, H. W. Mesdag, William Nicholson, Derwent Wood, and Charles Shannon.

THE EDITOR.